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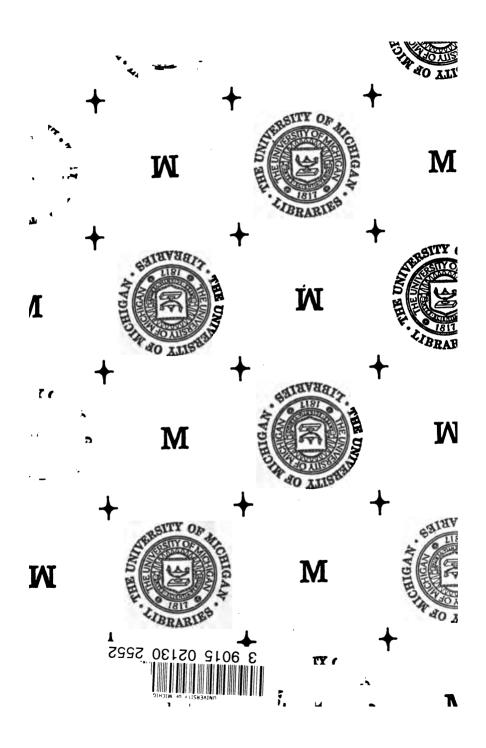
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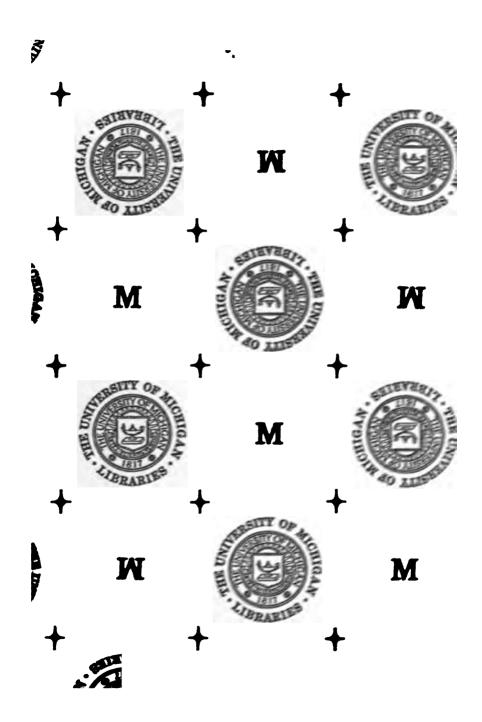
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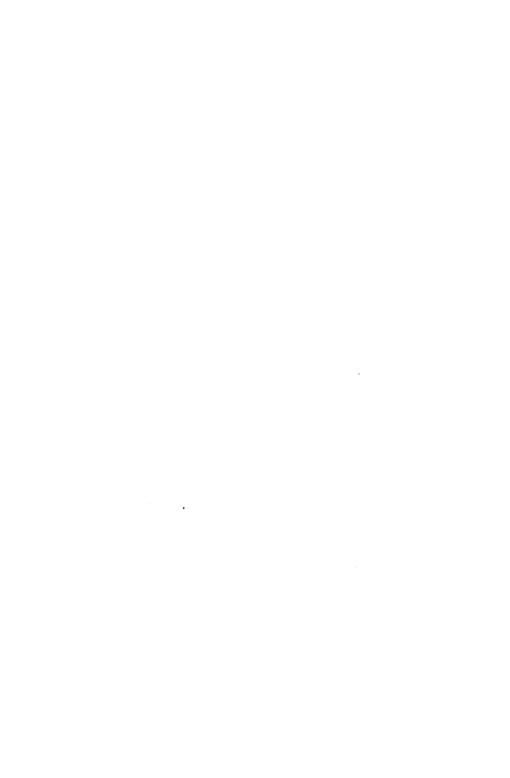
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TO THE
COMPANION
OF MY FIRST MOTOR
JOURNEYS

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TO THE
COMPANION
OF MY FIRST MOTOR
JOSEPHEYS

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I

HOW TO BE HAPPY THOUGH MOTORING

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HOW TO BE HAPPY THOUGH MOTORING

HE happy motorist is he who has the freedom of the roads without being in bondage to a pastime or a fad. To be a monarch of miles is very well, but to be a slave of motor-cars is very ill—a waste of life, and damaging to reason. Yet to gain that freedom of the open road most of us have to pass through a time of moral and physical servitude, being in bondage to the means, that haply we may attain the end; and they who escape from this bondage as quickly as possible are the wise and happy among motorists. absorbed in the mechanical details of motor-cars. unless such absorption be a condition of one's profession or business; to spend one's time upon them, to think, talk, read about them to the exclusion of real and vital matters—this is to put oneself on a level with stablemen and jockeys,

whose talk and thought are of the stable rather than of the road and the downs. But in these early days of motoring, this is exactly what most of us do. We are still enthusiasts, we are still so pleased to have found a key to time and space that we are apt to occupy ourselves too long with the key, polishing it and brightening it, instead of opening the door whose ward it commands.

In all mechanism, however, there is a soul, and the mechanism that serves us as wings need not and should not be robbed of its poetry. But just as we do not continually occupy ourselves with the grammar and spelling of Shakespeare or Dante, we do not wisely concern ourselves too. much with the rods and tappets and wheels that belong to the soul of the motor-car. They are not its soul, but rather the anatomy of its soul. The amateur should have some intelligent knowledge of them, in order that he may treat his machine with the necessary sympathy; but they have their special expert army of doctors, surgeons, nurses, artificers, whose business it is to devote their lives to the study of them. happy motorist, however profound his knowledge, should have no mechanical preoccupations,

HOW TO BE HAPPY

or his true enjoyment will be menaced. He must be free to take the gift that his creature of steel has to offer him; to be able to sing with Mr. John Davidson—

My car is waiting: through the silent town,
The silent city and the lamplit night,
Watched by the star-attended moon, half seen
Behind her cloudy lattice in the skies,
Our wind-shod wheels will bear us speedily.

To win this freedom, then, should be the ambition of those who use, or are about to use, the motor-car. In the pages that follow some broad guiding principles are laid down which it is hoped may be of some help to beginners in their introduction to a new pleasure. But it cannot be too clearly realized that the true use and enjoyment of such a complicated and elaborate aid to life as a motor-car depends not on any amount of technical lore, but on the sanity and common sense of the user. I am afraid that among motorists at present there are more slaves than masters of the motor-car; we are still too conscious of it, too much preoccupied with and imposed upon by its strange personality. It was so in the early days of railways and of bicycles; it will always be so in the case of

ships, which have a romantic and personal significance for us which no amount of use and familiarity can ever obscure. But, for most of us at any rate, ships represent an excursion from our daily life, or an interval, however short, between two separate pieces of life; whereas the motor-car has come with a rush into the very tracks of our daily life and entangled itself in the wheels of our existence. That is why we cannot afford to be dominated by its personality.

There is one great happiness for the motorist which eclipses all others incidental to his pastime, and that is the life of road travel to which his car introduces him. The mere driving of a motor-car, however beautiful the country may be, is a small and decreasing pleasure if the beginning and the end of the drive are one and the same point. But to make a journey, however short; to travel deliberately from one place to another; to begin the journey at one point, in one set of surroundings, and finish it amid scenes quite different—this is the true and increasing pleasure of motoring. When all has been said that can be said of the exhibitantion of speed, of the comfortable isolation, of the tonic effects of

HOW TO BE HAPPY

fresh air crushed in upon the lungs—and these are not small things—there remains, greater and better than them all, the joy of making journeys on the roads. It is the greatest innovation that could be imagined on modern travel, with its speedways and railroads and tunnels and general isolation from life in detail. No one can know a country who does not know her roads; and no one can know the roads who does not travel them from end to end and yet travel consciously over every intervening mile. A railway journey for most of us consists only of two extremes-departure and arrival; we have no sooner started than our thoughts are set upon our destination; and what lies between is but the intangible diminishing barrier of space. But on a journey by road every yard, whether we measure it with foot or wheel, is of equal importance, and every milestone, whether it marks the stages of arrival or of departure, whether it bears one or three figures on its face, whether it stands obscurely in the city street, or bleak and weather-worn on some lonely hill, is a monument of equal significance with its fellows. This is especially true of a country like England, whose beginnings are

sunk in a deep vista of time; which had its daily life, under sun and shower, in forest and meadow, before any shriek of railway whistle had startled the sleeping echoes of the world, or any iron road had scarred its green bosom; the England that was before even the roads were, and had its being in isolated clusters of life, for whose people the world was bounded by the horizon visible from their sheltered homesteads. To such a country the roads are the true and only key. The country that was before the roads were is the country that brought the roads to its doors when it began to emerge from the condition of isolation to that of community; and once the roads were there, the world which they called into existence, and fed with their tides of human life, grouped itself naturally about them. Upon them its daily life ebbed and flowed through years and centuries until the great arteries of the railways came, diverting the flood of traffic, and leaving the roads empty and neglected. England was already built and in existence when the railways came; its features were set and determined, and its face could not be changed nor turned from its ancient regard. So that it is only through a back part of

HOW TO BE HAPPY

England that the railways pass. The mail goes thundering on by cutting and embankment, roars over the river, and flies whistling past the town on its own great viaduct of arches; the backs of houses, the spires of churches, the unsightly purlieus of commerce in its view; but the old life trickles on through the valley and beside the hill into the sunny High Street, past the doors of the churches, beneath the creaking signs of the inns, over the mossy stone bridge, and out again into the world of farm and hamlet.

That is the way in an old country, but in a new country it is different. The railways are the true roads of America; they have made the towns, and the towns turn to them in grateful acknowledgment, not banishing them to back regions, but receiving them in their very midst. Yet I cannot but think that internal America is still in something of the same state in regard to roads as the England that existed before the roads came, and when journeys were made on horseback; and that a development of roads there will mean a rediscovery and delight in the old placid country life of America that is far from the din of cities, and has its roots in a past that

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I

HOW TO BE HAPPY THOUGH MOTORING

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II INITIAL DIFFICULTIES



INITIAL DIFFICULTIES

ETWEEN those who use motor-cars and those who do not use them there is a great gulf fixed. In America people who oppose what is called progress are not given much of a chance; but in England things are rather worse to-day than they were in 1903, when the Motor-cars Act was passed. That Act was a compromise between the demands of those who felt that the motor-car as a pleasure vehicle ought to be legislated out of existence and those who felt that it and its users ought to be set free altogether from extraordinary legal restrictions. The licensing system and liability to imprisonment were a concession to the first party, the extension of the speed limit to twenty miles an hour a sop to the second. The working out of the Act has pleased no one, not even—and this is its weakest point—the moderate and unselfish users of motor-

cars who do not permit their vehicles to be an annoyance to the other users of the road. There are, I believe, a very great number of such people in proportion to the few offensively mannered motorists; but they make a quiet, unobtrusive, and necessarily almost inarticulate majority. The controversy has therefore settled into a fight between the extremists on both sides. The motorists, in Parliament and elsewhere, feel that they are fighting for dear liberty—nay, for their very existence; the anti-motorists feel that they are called to a great mission in the putting down of a selfish, disgusting, and murderous pastime. Both sides therefore feel it necessary to demand more than they really think necessary.

Of course there ought to be no fight at all, merely a conference as to the best way in which to achieve the real end in view—namely, the convenience of the public, afoot and awheel. But while a few motorists continue to act selfishly, foolishly, and, I do not hesitate to say, criminally, and while choleric and old-fashioned magistrates continue to abuse the powers conferred upon them by the Act, there can be no hope of a peaceful solution. More than this, the general

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public is already alarmed; a few recent fatal accidents to children and old people have acquired a ringing publicity, and the close coincidence of a few more is all that is necessary to excite this alarm into something like a general panic which would result in the throttling of an agreeable pastime, of a charming method of travel, and the damaging of an important industry. The remedy, it has become a commonplace to say, lies almost completely with motorists. But they must not merely act scrupulously within their rights-that is not enough. They are "up against" a big prejudice, and it is no use in this case to oppose prejudice with mere reason. power is on the side of prejudice, and it behoves motorists, if they would retain or extend their privileges (and deserve them), to act with more than common justice and considerateness. must be subtle, artful even. An elaborate drawing up before the horse which the country farmer is doing his best to scare into panic; a ceremonious reduction of speed to a crawl while passing the old lady in her barouche, so that she shall not be dusted; a generous treatment of the country parson and squire when encountered-

these belong to the subtleties, the guile, the worldly wisdom of a threatened pastime. The common consideration for deaf old labourers, villagers in their Sunday clothes, timid girls driving market carts, the saving of agonizing pangs to mothers watching their children playing in the road—even when you know the children to be safe—to urge these would be to insult the humanity of motorists. Yet, although it is inconceivable they should disagree with me, motorists, and those who intend to become motorists, will permit me at the outset to remind them that they hold these humane views of common civility, and to urge them to bear them in mind continually.

The root cause of the motor difficulty seems to me to lie in the fact that modern motoring is a pastime imported from France, and governed largely by conditions that do not fit English or American country life. The long, lonely stretches of the routes nationales, those wonderful broad highways of the agricultural world; the infrequent villages, the absence of steep hills or sharp curves; the vista of roads that lie visible before you for five or six miles, straight as a gun

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barrel, empty as the blue sky-these are conditions at which a speed of fifty or sixty miles an hour can be kept up through mile after mile, not only with pleasure and convenience, but with perfect safety. That is motoring in France; but the motorist finds a sharp contrast when he returns to England. On the French road there was nothing to do but open wide the throttle, advance the spark, and sit and sing like a bird while the engine sent you swooping and skimming as fast as a swallow over the world; on the English road every mile has its score of lurking dangers, its sudden corners, high hedges, crowded villages, busy farmhouses, sheep and cattle, hens and dogs, children shouting and playing in the roads, heavy wagons creaking along on the wrong side, with a driver dozing on his load. Here the power of the car is often an embarrassment—that is to say, it has to be remembered constantly, and its powers of stoppage never for one moment forgotten. The strain on the nerves, although of course it is automatically met and unconsciously borne (for the man who feels the strain of motor driving and who looks anxious and worried is a dangerous driver) is continuous,

itself when more honest methods of business came to be practised.

This is a grave indictment; but it is true of the motor industry as it was within very recent years. It is not all roses yet, by any means; there is still room for a vast deal of improvement in that little matter of honesty; but the change is so marked, and as a result things are so much healthier for buyer and seller, that one hopes for a continuance of the healthy development. The best sign of all is the better work which is now being put into motor-cars; for by that, and by that alone, can any manufacturer obtain or hold pre-eminence. The next best sign is visible in the methods of the advertising adopted by the leading firms. Performances are now set forthso many hundreds of miles without a stop; so many thousands without a repair; so many months of actual use for so much money spent -matters duly attested by private users or automobile club officials; matters, too, on which he can form his own opinion. All this, I say, is, in the interests of trade, commercial honesty, and public convenience, a most blessed and desirable change.

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know any trade that in the competition and struggle of its early days fell so low as the motor trade. I mean morally low—a matter which may seem unimportant to the average purchaser, but is in fact supremely important to him. Any impartial person taking up a trade motor paper a few years ago must have been shocked by what I can only describe as the frantic lying of the advertisers: assertions and counter-assertions, boasts, denials, hints, back-handed hits at rivals-all the dreary dust of the advertising system thickened into a very fog of darkness and untruth. bewildered buyer in those days turned from this parade of infinite promise and guarantee to find, once he was fairly in the hands of the agent or manufacturer, that he had merely stepped from the frying-pan into a roaring furnace. To untruth was now added carelessness, incapacity, and in too many cases actual and flagrant dishonesty; he was overcharged, cheated, robbed right and left—with the result that motoring as a pastime came by a very evil name on the score of trouble and expense, was temporarily checked and damaged by it, whereby many dishonest firms came to their well-deserved fate; and only righted

itself when more honest methods of business came to be practised.

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A recent example of this kind of advertising deserves all the publicity it received whether by payment or no payment—in which fact is revealed the true commercial acumen of the Instead of merely asserting that the advertisers. Napier car could be driven on its top, direct drive at any convenient speed, and that it is possible to go for a long drive on that car without touching the gear levers—an assertion which, alas! amid the clouds of disbelief that still obscure the truth of motor advertisements, would not in itself be sufficiently convincing—the proprietors of this car did actually cause it to be driven, for such a distance, and over such a road as it would never be required to travel in the time by a private user, on this very top or direct gear, the performance being duly checked and verified by two independent witnesses on the car-one for the Press and one for the English Automobile In other words, a six-cylinder Napier car did, the top gear or direct drive having first been enmeshed, start from Brighton at six o'clock of an October morning, and did actually travel to Edinburgh over hill and dale, with various stoppages for the bodily refreshment of the occupants (even

an observer must sleep and breakfast) without change of gear, and did actually arrive at Edinburgh the next day at 7.30 in the evening. A flying kilometre was traversed at the rate of 46 miles per hour, and immediately afterwards the same piece of ground was returned upon and travelled over at the rate of 5.3 miles per hour, neither the gear levers nor the clutch being touched during the process; and later, a hundred yards were covered at the rate of 1.33 miles per hour, the clutch being occasionally thrown out, but the gear remaining unchanged.

This was a more important and remarkable performance than every one will realize. As a piece of advertising it seems to me respectable and legitimate, useful to seller and prospective buyer, because it is an exact demonstration of certain limited facts. It did not prove that the Napier is a good car, or a fast car, or a cheap car, or a comfortable car, or an expensive car, a quiet or noisy car, or any vague thing of that kind. It proved an exact fact, that the Napier car could be driven on its top gear from Brighton to Edinburgh—over a road, that is, which includes such severe gradients as Hand Cross Hill and the hill

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immediately north of Alnwick, which has to be taken after a sharp and dangerous bend, and cannot be "rushed." From this single proved fact a host of things can be deduced; that if this can be done from Brighton to Edinburgh it can be done from Edinburgh to Brighton, and other places; that the noisy nuisance of gear-changing, with its inevitable wear and tear, can by a skilful driver generally be avoided on this car; that it is presumably a quiet car, since it drives habitually direct from engine to axle; that it is easy to drive, since only the throttle and the spark need to be closely manipulated; that it is probably a safe car in traffic, and so on. In other words, this advertisement did what all advertisements ought to doit placed the public in possession of at least one proved, attested fact about the thing they are asked to buy. Any one who would buy a motorcar on the strength of such a performance alone would be a very foolish person; it only tells him one of many things which he requires to know; but it does tell him that, which cannot be said for many advertisements.

If he should refuse to be influenced by ordinary advertisement, the ignorant buyer of a motor-car,

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in England at any rate, generally decides to be guided by what he sees at one of the great annual motor shows, which have become so popular. Seeing that millions of pounds' worth of cars are sold annually at the motor exhibitions in England, it is surprising that they are not better controlled and organized. The question, for example, of who holds and directs the show is of very great importance. At present it is promoted by a trade society of sellers and manufacturers of motor-cars—that is to say, by people solely interested in selling as many cars as possible during the week when the show is open. That is no doubt a very natural and even laudable ambition on the part of the motor manufacturer, but it is not altogether the method by which the show can be made of the greatest interest and usefulness to the public. A great many people, it is true, go to an automobile exhibition in order to buy motor-cars; but of the thousands who throng the building, only a comparatively small number actually buy motor-cars there-the greater number go to look round, to be educated, to acquire information and impressions which may enable them, if they at some future time

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decide to buy a motor-car, to make their choice with wisdom and discretion. It seems to me. therefore, that the Motor-car Exhibition should be held under the rules of an independent authority not engaged in the motor trade, but interested in it from a public point of view, and in England the proper authority is the Automobile Club of Great Britain and Ireland. Why the show is not held and controlled by the Club itself is, like so many of the affairs of the Automobile Club, a matter of mystery to me—or, if not quite a matter of mystery, at least a matter of doubt and wonder. The Automobile Exhibition held every year in France is held under the auspices of the Automobile Club of France, and has hitherto been of much greater importance and authority than anything of the kind held in England, although there are more motor-cars owned in England than in France.

The motor show under present conditions is very much like a fair. It consists of a great number of separate stalls or stands, upon each of which a firm places as many cars of different kinds as it has room for, and from each of which the passing visitor is importuned by assiduous

salesmen. The result upon a lay mind is chaos and confusion; upon a lay body extreme exhaustion, and what I can only describe as motor headache, produced by the smell of new varnish and the glitter and glare of ill-arranged miles of brasswork and polish. To arrive at any useful information or result is extremely difficult even for the expert. In my ideal motor show the whole of the exhibits would be received and classified by the organizing authority. The cars shown would not be exhibited on the stands of separate manufacturers, but arranged in groups according to price and horse-power; there would be an alley of 6-h.p. cars, a park consisting of 10-h.p. cars, a corridor of 20-h.p. cars, and so on. Each of these groups would be classified, also, according to price in progressive order. The first group would contain cars costing between £150 and £200; the second, cars between £200 and £300; and so on. Upon each car would be exhibited a placard clearly setting forth its price, horse-power, number of cylinders, and the manner of driving—whether by chains or direct driving; also the approximate amount of spirit used on average roads per mile, the approximate cost of

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tyres for a given mileage, and so on. would also be a demonstration stand, on which would be shown by means of working models the various systems of driving, gear-changing, etc.that is to say, there would be an open model of a drive by bevel gear, an open model of a gear-box, an open model of a two-cylinder engine with a glass section in the cylinder. By these means the whole working of motor-cars would be demonstrated to the layman, so that the information given on the different placards would have some meaning for him. And finally, instead of the unhappy visitor being deluged with printed matter from every stand he passes until he can hardly stagger on under the load of catalogues and leaflets that are pressed upon him-let alone think of reading them—there should be an information bureau at which would be collected and classified the various catalogues and illustrations supplied by exhibitors, so that having seen a car or cars that interested him, and made a note of their numbers, the visitor would merely have to go to the catalogue stand, mention the numbers, and receive all the printed matter dealing with those particular cars.

But these things are not yet; and, under the circumstances, there is nothing left for the wise ignoramus but to consult an expert or read a book of advice.

III THE BUYING OF A MOTOR-CAR



THE BUYING OF A MOTOR-CAR

THE ideal of motoring combines two things: to secure the greatest possible amount of pleasure and luxury for oneself, and to inflict the least possible amount of discomfort on other Envy and uncharitableness the motorist people. must expect for some time to come; but malice he may avoid, if he will take care not to deserve Holiday seasons are often wonderful times of elaborate disenjoyment, of pleasures taken foolishly, of stupid flockings in the direction of a merry-making purely conventional and symbolic: but the man who has a motor-car and knows how to use it may really enjoy; he may taste new experiences, and rediscover old and forgotten pleasures; he may do that most enchanting of all things-discover and explore a country; and he may do it all without adding anything to the fuel pile of prejudice that still grows against his

pastime—nay, he may do much to reduce it, and to convince those who are inclined to persecute him that motoring need not necessarily be the occasion of a vulgar and selfish nuisance. If one had England to oneself, for example, it would be pleasant to career over it from end to end, taking in its landscapes and contours in great bird's-eye views; but England is a crowded country, and has to be the playground as well as the workshop of a great many people who do not possess motor-cars. The motorist who remembers this, and takes advantage of it, is the one who derives most genuine pleasure from his pastime.

And first, let it be realized that for sensible people the mere act of driving rapidly in a motor-car is in itself no great pleasure. For half an hour it may be exhilarating; but if that were all, if one were to have no eyes and ears, but merely lungs, the pleasure would soon pall, and be hardly worth its obvious disadvantages. It cannot be too strongly urged that it is as a means of travel that the motor-car makes its strongest and sanest claims on the generation that has discovered it. Not necessarily as a means of rapid

THE BUYING OF A MOTOR-CAR

travel, even; although, if one's object in life be to get from place to place as quickly as possible (and it would be hard to imagine a more insane ambition) the motor-car will help. But fortunately we do not all want to commit this temporal suicide. The days of our life are threescore and ten years; by taking things at a normal pace we may pack that little span full of the living pains and pleasures and efforts that go to make existence worth while; but if we suddenly become bitten with the craze to do everything at express speed, and to condense and abbreviate all experience and sensation, surely it were only logical to put a revolver to our heads, and take the whole at one gulp. The motor-car, which is so often said to be a saver of time, is too often a destroyer of it, and a thief of experience; hence this warning, and a plea for its use in more placid and enduringly pleasant ways.

For every person who possesses a motor-car there are probably forty or fifty who are either about to possess one or who intend to do so as soon as they can afford it. It looms as a possibility in the minds of a very great number of people, who are, however, so befogged and confused by

necessary), and if in addition you feel yourself able to find £50 at any moment (I don't mean at every moment) without undue interference with the convenience of life, then, I say, you can afford to keep a motor-car. It cannot be done extravagantly or royally on that sum; it will have to be treated more as a hobby and amusement, like a bicycle or a little yacht, rather than as a useful or luxurious appointment, like a carriage; but it can be done. If, on the other hand, your resources are too small and, above all, too inelastic (as in the case of a man whose sole income is derived from a fixed salary) to make that odd £50 easily forthcoming, do not, I beg of you, buy a motor-car. You may be able, by the accurate showing of accounts, to spare £100 a year for upkeep; but you may have bad luck with tyres, you may have a collision—any one of a great many things may happen that may cost you £50 at one swoop.

For remember this—that a motor-car is, when all goes well, not at all an expensive thing in proportion to its services and the pleasure you may derive from it, but that almost all accidents on a motor-car are expensive. Once it gets into

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the repair shop and mechanics begin to book time upon it, then farewell economy! All those pretty devices for saving this or that expenditure; the half-sovereign you saved by buying petrol in bulk and lubricating oil by the cask; the bargain you struck with the stable helper who keeps the car washed for an additional £10 a year—how feeble and futile they look when you receive a document like this:—

Mechanics' time on car, straightening	£	s.	d.
frame, taking down gears and			
cleaning same, fitting new gear			
in place of one broken, drilling			
out keys and fitting new ditto,			
generally overhauling gear-box and			
fitting new lubricators to same,			
straightening lever connexions,			
fitting new boss, and testing .	17	10	0
A new gear-wheel, R607,549, as per			
	11	13	0
A "Torrent" lubricator, complete .	2	5	0
1 dozen bolts	0	4	6
2 yards copper wire	0	0	2
	£31	12	8

And even if this be somewhat exaggerated, it is sufficiently like certain authentic documents to

be unpleasantly familiar to the motorist's eye. And even if it is extravagant, and you go and complain of the excessive charges, it is of little use. A considerate works manager receives you, shows you the number of hours booked, explains that the time was actually spent, and that the mechanics' wages have to be paid, and finally, perhaps, with an air of concession, agrees with you that the copper wire ought not to have been charged, and, with a prodigal gesture, strikes off the twopence. And you go away feeling that you have been haggling about trifles. But this is a gloomy picture. I intend it as a warning, and to explain that fifty pounds.

Before I leave the question of finance, I think it only wise to remind my readers that there is still a belief in this country that any one who drives a motor-car is very rich, and that financially he is fair game for all in whose power he may find himself. An experience of my own a little while ago impressed this fact upon me very disagreeably—and with it that other fact to which I have already referred, viz. that nearly all accidents with a motor-car are expensive. I was driving a car—not my own, but one which a

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friend had asked me to try-on a famous road in England, and, in circumstances in which I was not at all to blame, I collided with and smashed up a dogcart. In that broad, empty road it was driving along in front of me, and when I was just about to pass it, the driver pulled his horse right across the way on to his wrong side, intending to turn into his lodge gates. The two occupants of the dogcart were thrown out, the cart was smashed, and the pony bolted-fortunately towards his own stable. I was, technically, not in the very least to blame; I ought really to have been indignant; and yet I could only feel an ignoble sympathy with the wrongdoers. They abused me roundly, and without reason; I apologized, also without reason, except that I somehow felt that the very existence of myself and the car was an offence. Moreover, their plight was so much worse than mine; the thing was too unequal. They were people of substance; but they insisted on my paying. "A man who drives a thousandguinea motor-car," they probably thought, "can well afford to pay for our cart"; and though the car was not mine I felt in a confused kind of way that it was just that I should be fined. Anyhow

that drive cost me exactly thirty-seven pounds; and (such is the state of popular prejudice) I was glad to settle it for that and escape the Guildford magistrates. The moral for me very clearly was that I could not afford to indulge in the pastime of driving motor-cars.

So that is why I lay great stress on the necessity, in estimating the cost of keeping a motorcar, of including a sum of £50 per annum for accidents. Of course in the case of one's own car insurance will cover a great many risks; but you cannot insure pneumatic tyres, nor will an insurance company always be ready to pay claims for moral damage, or (as in my case) to liquidate liabilities incurred, in spite of the legal right, by the uneasy conscience of the motorist. There is also the danger that one may be fined, quite unreasonably, for exceeding the speed limit. Every one, from the King of England and the Prime Minister to be conveyers of His Majesty's mails, exceeds the speed limit sometimes; it is probable that you will; but even if you do not, that is no guarantee that the inaccurate policeman may not hold you up some day, hale you before the magistrate, and have you fined £10 and costs.

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Good conduct is in itself no protection; and in the present state of public opinion fines are likely to increase rather than to decrease in severity.

The next point to consider is, "What do I want a motor-car for?" If you want to drive in from the country to business and out again at night, you will want a different car from one that would be suitable for touring on the continent of Europe; if you want a car in which to pay calls and do shopping, you must not get a car that would be ideal for long country journeys. ordinary reply to this question is, "Oh, I would like a car that would be suitable for driving in town, and that I could also use instead of the railway for travelling; it should hold four or five people with luggage, go very slowly and quietly in town, and at sixty miles an hour (if I want it) in the country, and never break down, and not want repairing, and cost about £150." If one points out that this is impossible, one is, as likely as not, told that motor-cars are therefore of no use. The trouble is that too many people imagine that if they have "a motor-car" it ought to do everything that motor-cars are capable of doing. But the word motor-car, like the word yacht,

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WILL assume that the question of finance has been settled, and that you are ready to buy your motor-car. You are now on the very threshold of difficulty and bewilderment. ever the price (between the limits I have mentioned) you are willing to pay, there are probably dozens of cars advertised for sale in which every little difference of construction is lauded as an advantage. "Buy my car, because it has a live axle," says one maker, and "Buy mine, because it has not a live axle," says another. The situation of a sheep in a den of lions is desirable compared with that of a quite ignorant person among the agents of various types of motor-cars, and if, thinking to receive guidance, such a one happens to pick up a copy of an automobile journal, his predicament is worse. A hundred pages of illustrated advertisements, in which each car is proved

by statistics to be the best, cheapest, fastest, quietest, and most durable car that was ever built; a dozen pages of correspondence, in which anxious motorists write asking what they are to do with these very cars, under circumstances of breakdown piteously detailed by the writers; a dozen pages of technical description, in which several cars are individually described as "reliable," of "first-rate design," "perfect control," "sterling workmanship," and so forth—these are but the materials of a new dilemma.

The best way out of it is one which only sensible and far-seeing people will take—to go to an expert of such standing that you can be sure he does not receive a commission on the car you buy, lay all your circumstances before him, pay his fee of ten or twenty guineas, and take his advice. It is probably the cheapest way in the end, and it is certainly by far the least puzzling and distressing. The fact that motor-cars can be bought in shops has misled many people into the belief that they can safely be bought on the merits of their appearance, like fruit or chintz. It is not so, of course, nor do people expect such simplicity in the purchase of anything else of like

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complexity. If horses could be exhibited in shop windows, I suppose ignorant people would buy the horses according to their own fancy; but even here expert advice is sought, although, as so many more people are familiar with horses than know the points of a motor-car, expert advice can generally be had for nothing. A motor-car costs more than a horse, depreciates more rapidly in value, and (if it has not been well bought) is at least as hard to sell; while its doctor's bill may make the most abandoned veterinary surgeon envious. You can, of course, buy your experience of motor-cars in this way, if you are determined to do so. It is a heroic measure, for there are few kinds of experience of which the first cost is so high and which have to be so soon renewed.

In the meantime I can give you some broad general advice that may save you from the worst mistakes and help you to a satisfactory choice. In doing so I must take several typical cases which will apply to some of the principal circumstances in which motor-cars are bought. I will therefore deal with the choice of five different types of car, viz.—

- 1. The two-seated car.
- 2. The cheap family car.
- 3. The business man's car.
- 4. The social car.
- 5. The car of luxury.

After that we can consider matters of housing, management, service, and actual running, when any one who reads these pages diligently ought to know as much about it as I do. And I cannot make it too plain that I have no desire to create motor maniacs or to add anything to the motorcar nuisance as it exists on country roads, made horrible by people careering about for the mere pleasure of going fast. Motor-cars can be of great use and pleasure to a large number of people, but no sane man or woman wants to devote any more time than is absolutely necessary to thinking and worrying about them, and therefore if I can help my readers to some system with regard to the choice and management of their cars whereby they can be prevented from becoming a preoccupation, and drop into their places as conveniences and aids to life, I shall have done what I wish. For my part I am very fond of motor-cars,

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but I should be sorry to think about them more than is barely necessary.

A great deal of pleasure can be derived from a small car of six or seven horse power that is not loaded with too heavy a body. The choice here is really limited to the work of a few firms who understand light car work, although the market is flooded with jerry-built, smartly painted little cars, assembled from rejected French parts and sold at an impossibly cheap rate. There is one make of small car which is so easily first that I have no hesitation in mentioning it—the De Dion. This firm has made small cars ever since petrol vehicles began to run on the roads of France, and no one has ever come near them for excellence of workmanship. The small 7-h.p. De Dion with two seats costs, I think, £200, although I believe they can be had with a cheap French body for £175; but with the extras which are necessary it is better to allow £200. Such a car can be looked after by any intelligent owner who has half an hour to spare every day, and it can be kept very cheaply. The Oldsmobile is another very popular car, of American design and build; in workmanship these cars have been much im-

proved lately, and, although I personally prefer a De Dion, they have certain advantages. They are quieter in their running, they are lighter, and are probably more easily cleaned, and their first cost is less, the lowest price being £150. They are also easier to drive, or, rather, one learns to drive them sooner than one learns a car of the De Dion type. For "running about" and taking short spins they are admirable; but for work and durability I prefer the other type of car, even though it costs a little more. I have mentioned names and prices in this case, although I can hardly do it in the case of larger cars; but in the small cars the choice, as I have said, is really more limited, and the matter of a few pounds is of more importance than it is in the case of larger cars. In any case, if you buy a two-seated car here are some sound rules:-

- 1. Don't overload it. Was it built for two people? Then don't try to put four on it, although it will carry them.
- 2. Don't drive it continually at its highest speed, which is probably about thirty miles per hour. It strains the engine, which will do its

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best work at about twenty miles an hour, with an occasional spurt if you want it.

- 3. Keep it well cleaned. A little motor-car is ugly and noisy enough; a dirty little motor-car is a disgrace to its owner.
- 4. Use only the best oil and spirit, and never start out, if only for a ten-mile drive, without a full supply of both.
- 5. Never drive on a damaged tyre, but take it off, and have it repaired before the damage gets worse. This is one of the real ways of economizing on the upkeep of a car. It will cost you a little trouble and save you a good deal of money.
- 6. Never forget that your little car is not a big car; that "seven-horse power" is a technical and arbitrary term, and has no reference to horses; that whenever the car is running wear is taking place; that little bearings will not last as long as big ones—in a word, that you cannot expect a thousand pounds' worth of work and material for two hundred pounds. But if you are sensible and careful, you can get more than two hundred pounds' worth of happiness.



V THE SMALL FAMILY CAR

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THE SMALL FAMILY CAR

TT is true that motoring on its most luxurious 1 scale is a rich man's pastime, but there is a modest kind of motoring that can be enjoyed by people with small incomes, and it is on the purchase of a car for this purpose that I now offer a few suggestions. The two-seated runabout is a somewhat selfish possession for a busy man with a family; he would prefer something in which a little party can be accommodated on the two days a week he has to spare for such outings. supposing-always that large supposition!-that there are three or four hundred pounds available for capital expenses, how can this sum best be laid out so as to secure the maximum of value with a prospect of inexpensive upkeep? I will assume that no chauffeur is to be kept, that the work on the car, with the exception of actual washing, will all be done by the owner. becomes necessary to have an easily driven, easily

handled car, not too heavy to push about, and with its parts easily accessible.

Now the smallest motor-car will need a good many hours' work per week spent on it if it is to be kept in good order, and I assume that my prospective motorist wants to spend just as few as possible. It will be necessary, therefore, to study simplicity in every detail when the car is being chosen, and to shut one's eyes resolutely to the mere charm of appearances. Horse power is the first point, and for a small car for the purpose I have named, where economy is a first consideration, I put 10-h.p. as an outside limit. simply means speed—the most expensive of all luxuries, because the extra power not only adds considerably to the first cost, but increases the wear on tyres and bearings and raises the cost of maintenance to an alarming figure. A 10-h.p. car will travel at thirty miles an hour if it is required to, and many 10-h.p. cars will travel much faster. The speed, therefore, is more than sufficient for the modest family man's purpose. And with regard to loads, a 10-h.p. car may be loaded up to its full capacity without any very sensible effect upon its speed or its power on hills. If it

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be geared fairly low, moreover, there will be less changing of speed required on hills, and consequently less wear in the gear-box.

It has become the fashion now to build almost all engines of 10-h.p. or more with four cylinders. There is a great deal to be said for this practice on the grounds of smoothness and silence-four small explosions are far less disagreeable than two large ones; but there is nothing to be said for it on the score of economy. It is more expensive to build, more expensive to keep up, and (a point for the man who looks after his own car) it is twice as troublesome to keep in order. Four exhaust valves to grind instead of two, four sparking plugs to go wrong, and to be tested in case of breakdown, instead of two, and so on. There is a great difference between the time spent on properly cleaning a four-cylinder engine and in that needed for one of two cylinders; the advantages for the man who studies economy are altogether on the side of the two-cylinder car. I am convinced that there will be a return to this type of engine on the part of many builders of cheap cars who are now declaring that four cylinders are absolutely essential to durability and efficiency.

Another point for the man who wishes to look after his own car is the accessibility of the working parts. It ought not to be necessary, for example, to dismount the magneto in order to tighten a bolt, as is the case in at least one famous car; nor to take off the body to get at the gear-box; nor to strew the road with seats, drawers, and footboards in order to oil the clutch. Matters like these must be very carefully gone into by the owner who intends to be his own mechanic; otherwise he may find it necessary to spend a day over a job which, in a properly designed car, would take half an hour, and to pass on his back in the motor-house those hours which he had designed to spend on the roads and in the open air. It is absolutely necessary that the clutch should be easily accessible by the simple lifting of the front sloping footboard; also that the gear-box should be exposed with equal ease, and that the unscrewing of a few wing nuts should be all that is necessary to render the gears visible. As for the engine, the same rules should apply. The exhaust valves should be so situated that they can be easily taken out for regrinding, and, if the ignition is by magnets, this should be

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in a clear position, where every part can be got at. The method adopted on the Rénault cars, for example, is far preferable, in my opinion, to that of the Mercédès.

Another point to be decided is the method of transmission. For light cars there is no advantage in the drive through side sprockets and chains, although for large cars I believe it to be the most satisfactory system. But it is more expensive, more troublesome to keep clean, and a little more noisy than the drive direct to the rear axle through a condon jointed propeller shaft. to a canda that for the car we are considering the live-axle drive is to be preferred. As a matter of fact, very few 10-h.p. cars are built with the side chain drive, and there will be little difficulty about that. What is important is that the shaft should have ample bearing surface, and the differential on the rear axle be substantially built of the very best material; also that there should be some provision for taking up wear on the differential, and that the axle itself should be thoroughly well stayed, otherwise there will be wear, play, and ultimately rattle and breakdown.

The body should be strong and simple, with

side doors that can be entered by people other than acrobats. For a motorist who intends to give his car plenty of hard work and does not keep a man to clean it, moderation in the matter of finish is desirable for two reasons. It may slightly reduce the first cost of the car if it is not finished in the very highest style of coachbuilders' work, and it will be easier to keep in order. varnish needs a great deal of working up and polishing if it is to look well, and if it is not so kept it looks far worse than a much plainer finish. For this particular car I recommend a flat finish of the grey that is used as a groundwork by coachbuilders, and is also used in engine work. Merely kept clean with the hose it looks very well, especially if the brass work (and there should not be too much of this left unpainted) be kept well polished. A good simple car of this type can be bought for £300 or £350, and its keep should not, with reasonable luck, cost more than £50 per year. I have only considered a petrol car in these notes, but for this particular purpose there is much to be said for the steam car, which will be discussed in another chapter.

VI STEAM CARS

STEAM CARS

THERE is a vague general impression that steam cars are obsolete—why it would be hard to say, unless it be because one famous type of American steam car, which did much to popularize motoring in England, is sold in England no longer. For the moment steam cars are not the fashion, but they are very far indeed from being obsolete; they are extremely efficient; they have (unlike the petrol car) become simpler instead of more complicated than of yore; they are strongly built and sweet and silent in running; and for certain purposes they are still, in the opinion of many experts, the most suitable form of selfpropelled vehicle. For what I have called the "small family car" I think that they have some conspicuous advantages. They are not suitable for excessive speeds-an advantage to the man of moderate means with an eye on his tyre bill; they are (in spite of all rumours to the contrary)

easily looked after by any one with a taste for mechanics; the smoothness of their running makes for economy in upkeep, as the shaking and vibration incidental to the use of an explosive engine are avoided; and they have certain mild disabilities—such as the necessity for watchfulness in driving, in lubrication, and because of the presence of a fire—that in a curious way tend to restrict their use pleasantly to moderate journeys instead of hurried and, in the end, expensive long-distance non-stop runs.

Their chief disadvantage is the necessity for carrying about with one a lighted fire; but on the newer cars this arrangement has been robbed of its former terrors, and one hardly ever hears of a conflagration on a steam car now. The use of paraffin is really the solution both of the danger problem and the expense problem in connexion with steam cars; but even in the cars that burn petrol I think the danger is more imaginary than real, while the reduction in price of motor spirit has made a great difference to the users of steam cars. I may be asked: What, then, are the considerations that should govern a decision to buy a steam car instead of a petrol car, and what

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system of propulsion by steam can really be recommended where (as in the case of the small family car under consideration) economy has to be studied? I will do my best to answer both these questions.

I advise no one to buy a steam car who is not at least a little interested in machinery, for many of its advantages would not otherwise be appreciated. But to the man who is going to be his own mechanic, and who has some taste for machinery, I recommend a steam car as providing him with a pleasanter and more grateful occupation than he will find in the care of a petrol car. The whole management of the two is different; a more loving, more personal care is necessary for steam; it needs more delicate and imaginative handling; its disorders are slighter, less obscure, more human than those of the petrol engine. longer actually to prepare a steam car for the road than it takes to prepare a petrol car, but much less has to be done to it between journeys, the cleaning of it is simpler, and on the whole the amateur will find that he has to spend less time, and spends it more pleasantly, in the care of a good steam car than of a good petrol car.

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Of the steam cars now on the market I will mention three, all of which give thorough satisfaction to a large number of users. pollet is of course the aristocratic steam car. Its workmanship is beyond reproach, and there are probably more brains in it (to use a familiar engineering expression) than in any other type of motor-car. I should not describe it, however, as a cheap or economical car, nor has any attempt been made to make a cheap car of it. It is suitable for those who can afford to pay for reputation and for the distinction of an undisputed prestige, but I do not recommend a Serpollet to the buyer whose wants I have been discussing in this and the preceding article. The White steam car has had an immense success, and is deservedly popular. Like the Serpollet—and, indeed, like all modern steam cars—it has an automatic flash generator, and consumes only a small quantity of water; and for the purposes of quiet people who like a quiet, sweet-running car the White can safely be recommended. It is not as cheap as some good petrol cars of similar power, and personally I do not favour the use of a double-acting engine, nor like the system of compounding adopted on the

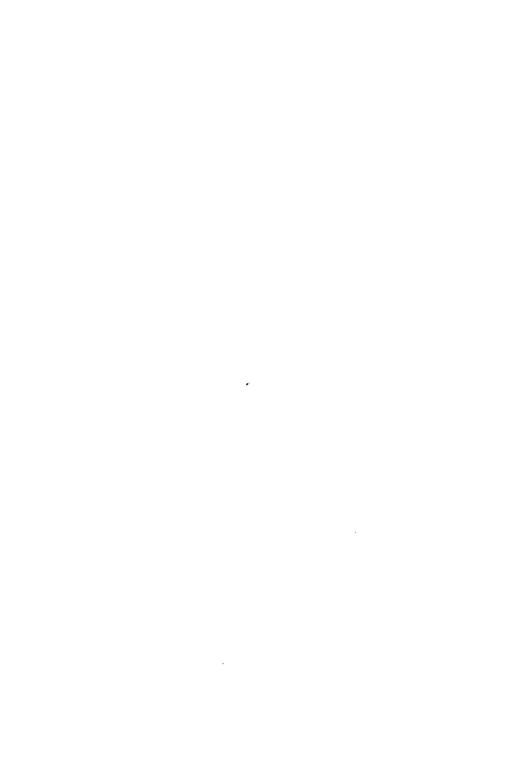
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White; but these are simply mechanical tastes of my own, and need not be regarded as implying adverse criticism on the car, which has earned a very remarkable reputation among its users in a short time. The Stanley car, of the American "runabout" type, has achieved some remarkable speed performances on smooth tracks, and is probably the best example of the old "locomobile" type. It must be remembered, however, that these cars are designed for use on American park roads more than on English highways, and that, strong as they are, they are not suitable for touring nor for family purposes. They are cheap, easy to drive, light to handle, cleverly designed, and very efficient on short runs; and I think that is a fair summing up of their merits.

In addition to these, there is the S.M.—a new car which has been in the experimental stage for some time, and is only just coming on the market. I have described it at length in "The Complete Motorist"; and need say here no more than that, in so far as my experience of it goes, it promises to be the best and most popular steam car of the immediate future.

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VII THE BUSINESS MAN'S CAR



THE BUSINESS MAN'S CAR

CAN think of no one to whom the motor-car can be of greater practical help and utility than it can be to the business man, who during the greater part of his life is more or less tied to routine. There is a general tendency among writers of ephemeral literature to despise the business man, to pretend that they have never seen one, and to ask what he is like. This is an absurd convention—the more absurd, in that every one nowadays tends to become a business man, and, whether he be artist, clergyman, legislator, or aristocrat, inclines obliquely towards Wall Street or the City.

Such a life has its special inconveniences. The fact that one must reach a certain place by a certain time every day, however much custom may reconcile one to it, is a constraint upon life that must often be irksome; it is a kind of imprison-

ment, an obstacle to freedom which impedes our movements long before the actual hour that binds I take it that any sensible man who has to spend eight hours of every day in an office wishes to waste as little of his spare time and effort as possible: that outside those hours he desires to be as free as possible, as little fatigued as possible by the wasteful business of coming and going; and that he desires to conserve both time and energy for the enjoyment of that life to which his daily industry entitles him. Now consider what takes place in the case of a man who lives twenty miles There is punctual rising—in from his business. itself no hardship, but a sensible and pleasant thing; getting up in the morning is probably the one act of life in which a time-table regularity is wise and helpful. But once out of bed he is in the grip of that nine o'clock, or half-past, which is to see him at his office. The human part of the day, with its human variety and change, begins after one is up and dressed, and it immediately becomes irksome and galling to be tied, not to a quarter of an hour, but to a minute. There is breakfast, over which he may wish to take a longer or a shorter time; there is the post, which

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may be more or less interesting; there are house-hold or garden matters which may want special attention. Yet his time is inelastic; the clock ticks on towards the hour at which his train starts—an hour that shadows his mind during all of the morning that precedes it; there is the hurry to the station, the struggle, perhaps, to find a seat, the long wait, perhaps, for an unpunctual train; the differences of opinion about windows; the colds, shakings, and other discomforts of the local train. By the time he reaches his office he has already expended an amount of nervous energy that he would gladly have kept for other purposes.

The motor-car will save him this nervous expenditure and substitute for it expenditure of money—a wise exchange, for those who can make it. He can live twenty or thirty miles from his office and spend less time from door to door than if he uses the railway. That in itself gives him a greatly increased choice in the locality of his home, and sets him free in the choosing of it from the necessity of living on this line or that, of choosing a house near the station, and so on. He can live really in the country—a thing which

no suburban train-catcher can conveniently do. Nine o'clock loses its terrors; there is nothing to catch; his car is waiting for him at the door. and when he is quite ready he gets into it and sits undisturbed breathing the open air until it draws up at his office door. And when the day's work is done, instead of the fatiguing reverse process of train-catching, crowding, shaking, and trying to read by a dim light, I know of nothing more restful than the twenty-mile drive in open air-no matter what the weather is likethat soothes the nerves and quiets the pulses and recreates the mind. In the one case a hardworked man is too often fit for nothing but to sink into a chair and fall asleep over a book after dinner; in the other both mind and body are alert and in full wakeful possession of their faculties.

The first essential of a motor-car used for this purpose is that it must be trustworthy. There must be no breakdowns, and as few as possible "days off." Part of the charm and benefit of a car for the business man will consist in the faithfulness and regularity with which it serves him. I do not pretend that we can banish punctuality,

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I only claim that the motor-car can rob it of its terrors; that one's punctuality may be done by machinery—in a word, that the machinery must be regular and punctual, so that the man himself may be a little unpunctual. Let us realize what is required of a car under these conditions. you live twenty miles from your office, and that the car is immediately driven home after taking you there, and comes again for you in the evening. That is 80 miles a day, 2000 miles a month, 24,000 miles a year. It is by no means impossible to get this amount of work out of a motor-car, but it can only be done by the most scrupulous attention to details. The regularity of the service is its saving quality, and the motor-car should be used for no other purpose. If it is used for country visits, and so on, in between its town journeys, then good-bye to its efficiency. A good chauffeur will be necessary also; but I will deal with maintenance in another chapter. enough to say now that neither in the upkeep nor in first cost will such a car be very cheap. Firstrate workmanship and material are absolutely necessary; and for hard, regular work of this kind I recommend a Panhard or a De Dietrich,

either of which will cost about £900, but which will last longer, and be cheaper in the end, than most cars costing much less. On the other hand, an interesting experiment might be made by a business man whose daily mileage was a little less than that I have estimated buying one of the cheaper 10-h.p. cars, which have earned golden opinions. My impression is that they would show signs of wear sooner than the cars I have named; on the other hand, their first cost is so much less, and they are so thoroughly well made, that the experiment might be worth trying on the score of economy.

For this daily employment of cars for business purposes, there is one plan which I think might be used with great advantage by three or four men of a little enterprise. One knows many cases of three or four men, living near one another, who invariably travel up and down together in the trains, who vie with one another in punctuality and regularity, and so forth. If four such men were to club together and buy a car, to be used solely for the purpose of carrying them to and from their places of business, the first cost for each of them would be greatly reduced, the cost

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of upkeep would be inconsiderable, and might actually fall below the cost of ordinary travel by train, with its incidental expenses of trap or cab; and there could be no danger of disagreement as to private use of the car, because it would not be used for any private purposes. In this way the burden of the car would be divided and its benefits multiplied. It will be remembered that we estimated a mileage of 24,000 per year; and although I may be disbelieved by people who have not been able to get half that amount of work out of a motor-car during the whole of its life, I say again, without hesitation, that a good car, regularly and carefully used, is capable of performing this amount of work, and continuing to perform it for many years. Of course the annual bill for repairs and renewals will be heavier than if the car were only driven for half the distance named; but if my plan be adopted of sending the car annually to the maker, to be taken to pieces, examined in every part, and all worn parts renewed, you will have a car practically as good as new every year.

In the design of such a car the particular conditions of its work must be remembered. It will

not be required to perform long journeys without stopping; there will not be a great deal of starting and stopping; it will not, presumably, be driven over very bad or rough roads. On the other hand, part of its daily journeys will be through the crowded streets of a city, where the traffic conditions will make it of first importance that the car should be sensitive to control, able to run slowly without changing to a lower gear, and quick to pick up speed again. As it must be out in all weathers, it must be so designed as to afford protection, both to its occupants and its working parts, from flying mud; and, above all, it must be strongly built, without being too heavy, and hung on springs of the very finest quality, otherwise the daily jolting will have a bad effect on the machinery. The pressed steel frame, which is almost universally adopted on modern motor-cars, could, in the case of a car used for this purpose, be modified with advantage by the introduction of longitudinal timbers of ash to reinforce the side members of the frame. This gives a certain toughness and spring to the steel girders, and adds to the fabric an element of solidity, not entirely unyielding, which is of great

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advantage where the road vibration is extreme or continuous. The wheels should be of the very best artillery construction, all four of the same size, and shod with heavy pneumatic tyres. As the car will not be running for great distances without a stop, the danger of heating and destroying the fabric of the tyres by the use of punctureproof bands will not be present; therefore I recommend Michelin or continental tyres, shod with Grose or Samson bands on all four wheels. The tyres should be changed about week by week; the front wheel tyres should be transferred to the driving wheels, and the near-side tyres to the offside; this will add considerably to their life when the car is run on a daily regular journey over the same roads and round the same curves.

The engine used on such a car must have certain qualities. First of all, and of course, irreproachable workmanship and material; there must be no broken crank shafts or seized big-ends. Next, it must be thoroughly elastic—that is, it must be capable of developing power at various rates of turning, for on this depends whether the gears have to be changed often or not. If you can manage with, say, three changes of gear on

your daily journey instead of six you save on the car's four daily trips twelve changes of gear, or, say, 35,000 changes in the course of the year, and that may possibly save you £20 on the cost of gear renewals. The elasticity of the engine depends largely on the design of the carburettor, and also, to some extent, on the method of ignition, and although for nearly all other purposes I am a believer in magnetic ignition, yet for this particular car I advocate ignition by means of accumulators and a high-tension coil. The reasons against this system in the case of ordinary touring cars are the liability of the sparking plugs to become "sooted up" during a long run; also the dependence on the accumulators and consequent helplessness in case they run down far from a charging station. But in this car, which only runs forty miles between leaving its stable and returning to it, there is no fear of the batteries running down, for one can always be recharging overnight, and a fully charged one put on the car each morning, while the sparking plugs can be examined and, if necessary, cleaned every afternoon between the car's two trips; and the use of a high-tension ignition system imparts

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a greater range and elasticity to the engine than can be obtained with the low-tension system. In addition to the throttle lever on the steering wheel there should be a small foot-pedal, the depression of which opens the throttle wide and the releasing of which closes it to the point at which the lever on the steering wheel is set. This will be found of the greatest advantage in driving through traffic, where both hands are needed for steering.

The carriage body should be long enough to allow plenty of leg room, wide enough to seat three people comfortably, and roomy enough to allow for the stowage of parcels or a little luggage. As the car is not to be used for touring, the lockers and cupboards need not be filled up with stores; but two of them might be fitted up as hat-boxes, as only a cap will be worn during the I recommend a "Roi des Belges" body journey. with a very high back, the padded upholstery coming almost as high as the neck; this keeps dust and wind out of the car. The only other protection I advise is a Cape-cart hood, which lies lightly back when not in use, and when drawn forward keeps off wind and rain without

shutting out the fresh air—which is one of the most important advantages of this kind of travel. It may be asked if such a car is suitable for any weather, winter and summer. My answer is that it is absolutely comfortable, whether in a hurricane of snow and sleet or on a windless hot summer's day. The most delicate passenger can wrap himself up so that he takes no harm and never feels cold; for motor clothing has been studied as a science, and to excellent purpose.

VIII MOTOR-CARS FOR TRADESMEN



MOTOR-CARS FOR TRADESMEN

THE position of the retail tradesman in and round large towns is, I imagine, becoming daily more and more affected by the great system of stores and associations for the supply of household necessaries. Where one can get anything at a few hours' notice, from a carriage and pair to a packet of one's favourite brand of tobacco, by the simple expedients of a deposit account and a telephone or a post-card, one is not likely to patronize the local shopkeeper with his higher prices and uncertain delivery. The seller of household commodities in a residential district cannot hope for more than a small proportion of his business, and that a decreasing proportion, to be transacted over the counter. The order part of the business will tend to increase, or, if it does not, woe to the tradesman and his trade! This means that the proportion of his goods [97]

which he has to deliver at the doors of his customers increases also, with an increasing strain upon whatever machinery for delivery he may have. Experience has proved that the loitering errand-boy can in no wise be quickened of his movements but by fire, earthquake, or murder; and the employment of these accelerators does not come within the scale of operations possible to a modest tradesman, however courageous.

The errand-boy, then, is of his nature unsuitable, and is, even before the tradesman himself. doomed to pass and disappear into the abyss of time. The delivery van, with horse and driver, takes his place, and is a sufficient though extravagant means of delivering a certain limited quantity of goods per day. But the horse. though more alert and compendious in his movements than the errand-boy, has his appetites and fatigues, which must be recognized and satisfied; his humours also, and weaknesses of the flesh; all of which things mean expenditure of time and money on the part of his master. If he can deliver commodities at the houses of a hundred customers in a day and there appears a onehundred-and-first customer, his goods must in

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theory go undelivered, and it will not be worth while to get another horse until long after the first moiety of the second hundred customers shall have been discouraged and dissatisfied by failures and delays.

In other words, delivery by a horse-drawn vehicle for any but a small class of retail tradesmen is inelastic, unpractical, uneconomical. The horse cannot do more than a certain amount of work a day, and he must not, if he is to be maintained in health, do less than a certain amount. He must make his journeys at regular hours, with proper intervals for refection and repose; and this is just where he finds himself entirely out of sympathy with the spirit of the retail trade. One necessary element of success in such a trade is, I am convinced, promptitude and regularity of delivery. The mind of man and, I believe, still more of woman is so constituted that the interval between the ordering of a piece of goods and its delivery is one of expectancy and unrest, in however small a degree these may be felt, or to whatever extent they may be overshadowed by more urgent preoccupations. To order and to possess are not two

mental acts, but the two halves of one, and the wise tradesman will see to it that they are not too long divorced from one another. To be able to deliver an article within an hour of its being ordered will be for him, if he would only realize it, a primrose path to the favour of his fellowmortals and, indirectly, to the land of plenty. This is a true saying, founded on the very rock of truth, and let such retail tradesmen as may read this page consider it well.

The machinery that can establish this cordial intention between the tradesman and his customer is the motor-car. It needs not to be fed or groomed; it is ready at any moment to make a large or a small journey—to go round the corner with Mrs. Smith's leg of mutton or to encompass a whole district of corners carrying mutton and contentment to the kitchens of whole streetfuls of Mrs. Smith's neighbours. If it has a good attendant its necessary cleanings and plenishings may all be accomplished long before the hours at which any mortal begins to desire mutton or other produce of the retail shop; and if necessary it can be kept running its errands from early morning until late at

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night. If the hundred customers become two hundred there will be no need to buy another motor-car, but only to abbreviate the hours in which it stands idle, and, at the worst, another driver can be hired to relieve the first-a much less dismaying enterprise that than the purchase of an additional horse and van! It need have no definite or regular round, if that is not convenient: it can dart from one customer to another and back to the shop and back again to another customer, satisfying the needs and flattering the vanity of each with its swift attentions. To questions of money and the different types which may be of use in different trades we may now proceed; in the meantime let its practical usefulness in this quarter of life be duly realized. And, like the leaf that Noah's dove brought back to him in its bill, some substantial token will assuredly be brought back to its enterprising owner before he shall have dispatched it on many journeys. And let me add, anticipating an obvious taunt, that the leaf need not be in the bill of the customer.

The problem of designing suitable motor-cars for trade purposes is so simple that one cannot

but feel surprise that this branch of the industry has been so little developed in this country. Simplicity and economy in working are the two cardinal principles: comfort, smoothness, silence, flexibility, speed—these, which are of first importance in pleasure vehicles, and which so greatly complicate construction and increase cost, are either absent from or are only of secondary importance in the design of trade vehicles. Lowness of price is important, at any rate at the present moment, when tradesmen have to be taught to use motor-cars instead of horses, and while they are still prejudiced against them on the score of economy; although later perhaps, when they have found how greatly their business may be extended and its expenses lessened by the use of the motor, this question of first cost need not be studied so carefully by the manufacturers, who can then pay more attention to refinements of construction. Although, as I have indicated, this branch of the motor industry has not yet received anything like the attention it deserves, it is, nevertheless, quite possible now for a tradesman to have made for him a motor vehicle which will serve all the purposes of his business, and

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that for a sum not so startlingly great as many seem to imagine.

In the first place, since simplicity is to be studied, I recommend a single-cylinder engine for all vans of under 8 h.p. Let us first take the case of a tradesman who desires to substitute a motor-vehicle for the ordinary butcher's or grocer's cart. In many instances a motor-tricycle, with a 2 or 3-h.p. engine and a large box or compartment mounted over the rear wheels, would do more work than the horse and trap, and such a vehicle could be purchased for £60 or £70. But I do not recommend tricveles for trade purposes, chiefly because, with the best intentions in the world, the cleaning of them is likely to be somewhat neglected; and as they will have to be out in all weathers the exposed mechanism of a tricycle is apt to be deranged by mud and rain. Moreover, it is my theory that a motor vehicle intelligently used will develop an intelligently conducted business, the necessities of which will soon outgrow the capacities of a small vehicle. It is better, then, to begin with the motor-car itself from the very beginning, even though its capacity is much greater than is required by the present

necessities of the business. It will be best to get the vehicle specially built, preferably by the firm that supplies the engine, instead of trying to adapt a passenger car to the purpose. As to the type of engine for this small delivery van, the choice in my own case would be a very narrow one. The De Dion single-cylinder engines are better tried, better known, than any other make; they seem to stand any amount of knocking about, and develop remarkable power for their size and simplicity. There are other makes of repute-so many, in fact, that I need not mention them; but I should put them all, for this purpose, far behind the De Dion. engine should be mounted on a long chassis (the standard De Dion chassis ought to be long enough), very strongly made and with the springs slightly reinforced; and on this chassis the van itself, which any coach-builder will make to fit, should be placed. For town work, where the machine is run only on wood or good macadam pavement, solid india-rubber tyres can be used; their use will add to the durability of the vehicle and decrease the cost of its maintenance. roads over which the van is to be run are not of

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the smoothest description, and include any stone setts, then pneumatic tyres should be used on the front wheels, where a reduction of vibration will greatly prolong the life of the engine without seriously adding to the cost. A vehicle of this description could be bought complete for something between £175 and £200.

For slightly heavier work, where greater loads have to be carried or longer distances covered, 10 or 12 h.p. will be found the most economical engine capacity, and in this case the number of cylinders should be two. A De Dion engine of 12 h.p. will again, in my opinion, be found the best; while of four-cylinder engines of this capacity (although I think two are enough for the purpose) the Panhard or the new De Dietrich would work and wear well. The cost of a car of this size will vary according to the type of engine used, but it should be purchasable for a sum between £275 and £400. An alternative to it, and especially in residential districts, where quietness will be appreciated by the customers, is to be found in the steam car, which has very special advantages for delivery purposes; or perhaps it would be more exact to

say that in this employment the only disadvantages of the steam car are not felt at all. The distance between stops being short, the water or fuel question will not be important, while the fact that the van will stand perfectly silent outside each house where the delivery is being made is of very great advantage. In some ways a steam car is not so economical to run as a petrol car; it uses much more fuel per horse power per mile; but I am not sure that in the case of a delivery van this would not be much more than compensated for by the absence of wear and tear due to the constant use of the clutch and change of gears in a petrol Of steam cars at present on the market the first cost is slightly higher than that of a petrol car of corresponding power; but any of them can be adapted for the purposes of a light delivery van.

Between a car of the capacity just discussed and the heavy goods van of several tons' capacity and of 20 or 30 h.p. there is no step. The first will (provided the shape and fittings of the van itself and the strength of the springs are adapted to the particular purposes for which it is required) serve every need of its owner that can be

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served by a fast and comparatively light vehicle; and for heavy haulage there is nothing better than the big Thornycroft or Straker steam vans, which haul great weights over long distances with the maximum of economy and at infinitely less cost, and with far less disturbance to traffic, than wagons and teams of horses. This, however, is a separate branch of the transport problem, and hardly comes within my present scope. enough to say emphatically that on the lines I have indicated any intelligent tradesman can provide himself with a motor-vehicle suitable for the purposes of his particular business; and that there are very few circumstances in which a retail tradesman who can command the small necessary capital will not find that the use of a suitable motor-car extends his business and reduces its expenses.

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IX THE SOCIAL CAR

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THE SOCIAL CAR

OR want of a better name, I have called the motor-car which is used to replace a carriage and horses, or in addition to a carriage and for similar purposes, the "social car." To the most of mankind the woes of people who are in constant difficulty over the management of their horses and carriages are of no great moment; but they are serious enough to those immediately concerned, many of whom would gladly abandon the cause of trouble if they could be sure of an efficient substitute for it. Fortunately for these an efficient substitute is to be found in the motor-car, which will carry them on their errands of work, pleasure, or ceremony much more rapidly than, and just as luxuriously and at least as cheaply as, the most nicely hung C-spring landau. The long chassis now used in the construction of motor-cars, the universal adoption of side-entrance bodies, and the

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great improvement in the construction of clutches and silent-running engines have all helped to bring the petrol car to a state in which, in matters of comfort, quietness, and accommodation, it can compete successfully with the horse-drawn carriage. It is, in addition, less expensively maintained than a smart carriage and pair, is cleaner, and, in spite of all nonsense talked to the contrary, more safe and trustworthy as a means of locomotion.

The troubles of the carriage-owner in a large town are many and serious. There is a great deal of hard pavement in all large cities, which destroys the action, reduces the value, and shortens the life of good horses. In country life horses have and always will have their honoured place; the motor-car can never compete with the saddlehack, nor is it in the eyes of every one a fair substitute for a spin in a dogcart behind a really good cob over sound country roads. But in towns it has all the advantages—so much so that a more enlightened age than ours will probably prohibit the use of horses within the areas of city traffic, on grounds both of humanity and public health. Readers of this book who are accustomed to see horses in wet weather slipping and straining over

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granite setts, or to smell that peculiar acrid, choking odour which rises from sun-baked wood pavements will not need to be reminded of this. Such reforms must, of course, come slowly, nor can one expect private individuals to make themselves responsible, otherwise than collectively, for the public health; but I can assure owners of carriages that they will benefit themselves, as well as the community, by making the change to motor-cars.

But you must go slowly in the choice of a car and ask yourself the question which I have warned every buyer of a car to ask, What do I want the car for? If you use your carriage simply for shopping and making calls, or going for short drives, or for driving a short distance to business every day, and for nothing else, then I advise you to buy an electromobile, which of all town carriages is the most luxurious and convenient. It is limited in range—you must not go more than twenty miles from your base and back again; if you do a great deal of shopping and calling it must be given time to get recharged; and it is, in proportion to its mileage, more expensive than other motor-cars. These are its disadvantages,

and its only disadvantages, and any one whom they do not affect cannot do better than buy an electromobile. They cost £700 or £800 to buy, and will cost, according to the amount of current used and its price, from £300 to £700 a year to keep up, including interest on capital, depreciation, and the wages of the driver. They will do the work of a carriage and two pairs of horses, which, including stabling, interest on capital, depreciation, and wages and livery of a coachman and helper (the wages of a footman not being charged in either case), cost not less than £700 or £800 per annum in a town. In London it costs about £750 a year to job a carriage and two pairs of horses. In this case both carriage and horses are bought new at the choice of the hirer, but of course they are not his property, and it costs about £600 or £700 to job an electromobile on the same terms, so that such difference as there is is on the side of the motor-car.

But for any other purpose the electric carriage is the least useful and most expensive form of motor-car. It is possible for about £650 to buy a petrol-driven landaulette or brougham which will do all that a carriage and any number of

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horses will do, and in addition can be used for country drives and journeys. But in this case the buyer must remember that the heavy carriage body used to convert a motor-car into a town carriage renders its use on rough country roads a matter of some risk. The vibration will tend to shake the heavy body loose from its fastenings; and at any but a very moderate speed it is unsafe, owing to the high centre of gravity and consequent difficulty in steering and taking If it is desired to use a motor-car both for town and country work, and there is not an unlimited amount of money available, I recommend the use of a glass front, with a long Capecart hood and side curtains for town work; all of these can be removed very easily when the car is used in the country. Another plan is to have a detachable brougham top, which can be screwed or clamped on to the body, and converts the car into a covered carriage, but I am not greatly in love with this device, which is at best an expedient, cumbersome to handle, and given to rattling and shaking. For the rest, it is important that a motor-car which is to be used for social purposes should be very quiet and clean in

its running, and very easy in its motion. It need not go fast, and ought to be geared fairly low for town work, so that the engine can pick up quickly in traffic. The clutch is also a very important matter in such a car, for jerks at starting are most undesirable. Several otherwise firstrate cars are for this reason unsuitable for town work; but among cars in the front rank which in matters of quietness, smooth running, and suitable design of clutch are ideal for this purpose I would single out the Crossley. The Crossley landaulettes which I have seen can hardly be distinguished from an electric carriage in point of silence—in fact they are much quieter than But such a Crossley costs at some electrics. least £900, which brings it into a category which we have yet to discuss. Next to it I would put a Rénault for this purpose, and next to the Rénault a three-cylinder Panhard.

X THE CAR OF LUXURY

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THE CAR OF LUXURY

T T might seem unnecessary to include the "car I of luxury" among the varieties of motor-cars as to the purchase of which miscellaneous advice is useful; one would think that there cannot be a great many people anxious to spend from £1500 to £3000 on a motor-car. Nevertheless, the number of cars of this type bought in England and America is astonishing, and when one considers the complaint of "bad times" which seems to have become habitual with a certain class it is not a little surprising to realize that more and more money is being spent daily on luxuriesamong them that most elaborate and costly form of laxury, the high-powered, sumptuously fitted motor-car, which as a means of travel has in the few years of its life eclipsed the railway train in speed, comfort, and convenience. In spite of the narrow, winding roads of England, and the country

tracks, quite unsuitable for speed purposes, of America; in spite of all speed restrictions and agitations; in spite of prejudices, warnings, fines, and imprisonments, big, expensive motor-cars are being bought and driven in England and America in constantly increasing numbers. Certainly when one sees them in the streets of a town or on a narrow country road one cannot help recognizing how unsuitable they are to the purposes for which they are often used, and in the interests of the majority of the public, motorists and nonmotorists, their abuse should be discouraged in every possible way. As I have said before, I think that the majority of sensible motorists would even wish it to be penalized; but, putting on one side the abuse of these big cars, there remains, and will always remain, a very definite use for them, to be enjoyed by the fortunate people who can afford to buy them.

If, then, you wish to buy the very best and most luxurious motor-car that money can procure, you will still encounter some of the difficulties that also embarrass the buyer of a small car—with the addition that the badly designed, badly built big car is an infinitely greater sorrow and

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nuisance to its owner and every one else than the badly built little car. A few years ago there were only a few makes of powerful cars, and these were all well known; now you can have your choice of dozens of 40 to 60 h.p. cars, a great many of which have no sort of reputation other than that achieved by assiduous advertising and occasional record-breaking. Among these, of course, there are still a few pre-eminent ones which hold their own against all comers, and the chief of these in public favour is still undoubtedly the Mercédès. Panhards, De Dietrichs, Napiers, Crossleys, Fiats, and Darracqs all have their supporters; and the wise buyer will restrict his choice to some such small list as that which I have given, and having decided on the make of car which he prefers, consider exactly how much luxury is obtainable in a motor-car, and how he can best obtain it.

High speed is of course expected; for it is assumed that cars like this are bought for the purpose of long journeys on the Continent, where there are many opportunities for travelling as fast as your inclination may suggest. But it may be taken for granted that any good car of

40 h.p. or more can travel at more than sixty miles an hour, and that is fast enough for everything but racing, and, of course, far faster than is necessary or advisable except for occasional spurts on a straight empty road. But to ensure abundance of power for carrying heavy loads and climbing hills 60 h.p. may be taken as a maximum. It is a sign of the times, and not a very desirable one, that the 1906 Mercédès of 60 h.p. has been increased to 70 h.p.; and there is always this temptation to be led on to possess more power and speed.

Your car must serve two chief ends—to be comfortable for yourself, and not too uncomfortable for other people. And first, as you will be carrying luggage, and do not wish to race, have it geared low. The sprockets are easily changed; and with a low gear you will run at your twenty miles an hour smoothly and easily, the engine not fretted, and the hills not dismaying it or you. As comfort has to be considered, the shape of the body becomes extremely important. Do not have a covered-in body: first, because one surely loses one of the great pleasures of motoring if one is not in the open air; and second, because a covered

THE CAR OF LUXURY

body adds greatly to the weight, and raises a shocking lot of dust. For this last reason, also, avoid cars that have a petrol or other tank slung low underneath the body at the back; the amount of dust raised by this means is a serious nuisance to pedestrians. A roomy side-entrance body of the type known as Roi des Belges, with high upholstered backs, and a light Cape-cart hood on the back to keep the dust out and to set up in case of heavy rain; this, with a proper provision of waterproof clothing, is all the protection that the ordinary traveller need want. chassis of the car should be long enough to admit of luggage being stored in the front part of the body without interfering with the occupants' legs and feet: a wheel-base of ten feet will amply There should be lockers in the afford this space. body in which the chauffeur can keep his storesoil, petrol (always a tin of petrol), carbide for the lamps, cotton waste, spare inner tubes (four at least), spare bolts, nuts, and small parts for replacement. And there should also be pockets or baskets in the car which are sacred from the chauffeur, in which books and sponges and the loose personal effects of the travellers can be kept

where they are quickly accessible, and undefiled by the motor's toilet necessaries.

What kind of a car? There's the rub; and it would need a great many chapters to explain all the conditions that should govern the choice, according to the means and individual wants of the purchaser. But we may give some rough outlines, with which many persons will doubtless disagree, but which commend themselves to our experience. Not less than twenty and not more than forty nominal horse-power are ideal limits. Within them sufficient speed, power on hills, and ability to carry all reasonable loads, will be found. Four cylinders; less are not smooth in working, more add (I think unnecessarily) to the car's Either Palmer, Dunlop, Conticomplications. nental, or Michelin tyres; but in any case fitted, all four, with Grose or Samson bands. It is only at very high speeds that these have any bad effects on the tyres, and ordinarily they add to their life and preserve from side-slip and puncture -the two banes of motor-travelling. Magneto ignition, but (if you wish to be secure from all possibility of ignition failure) with a supplementary high-tension installation. You may never

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need it, but the fact that it is there will add to your security and peace of mind. A car driven by side chains instead of by a live axle is for touring the best and most durable thing. Brakes are important, and are trustworthy on all first-rate cars; but a little point worth remembering is that the side brake should, as in the Mercédès, be applied by pulling it towards the driver instead of, as in most other cars, by pushing it away from him. In case of emergency, it is always easier to apply the force in this way, and to apply it more quickly and powerfully.

Some of these bigs cars are far from quiet, and make a deafening uproar when they are being driven at low speeds; so the buyer of a high-powered car should insist on the engine being reasonably silenced and the gearing quiet on the low speeds. As to comfort, the large covered bodies shown on big cars in exhibitions are often a snare; they are wonderfully luxurious with their arm-chairs, tables, electric lamps, pantries, and lavatory compartments, but their weight is enormous, and not only makes it necessary to be constantly renewing the tyres, but renders the vehicles positively unsafe for slippery roads or high speeds. An open

car with a long chassis, six-seated, and fitted with a long Cape hood covering the whole length of the vehicle, combines all the luxury that any reasonable creature can desire, with the advantages of fresh air and safety. There should be three independent brakes and a sprag on every car of this size, as its weight and power make it difficult to stop suddenly. Needless to say, machines of more than forty horse-power should be used with the utmost care and driven only by the most careful and experienced men. They can then be used with perfect safety, and, given a country big enough for them, they provide a method of travel that is well-nigh ideal. But England is not big enough for them.

XI THE CHAUFFEUR

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THE CHAUFFEUR

M UCH of the horror of motoring is centred in the chauffeur. The owner who is ignorant of mechanics is hopelessly in his hands; it is his convenience that must be consulted, it is he who gives the word to stop and to go on, he who decides that you must sleep at Coventry when you had intended to go on to Shrewsbury. shakes the nerves of timid passengers by driving fast round corners, or grazing the wheels of havcarts; he finds it necessary to go fast when you would like to go slowly and enjoy the scenery; and if you want to push on to your destination, he has a reason for going slowly, or for stopping to effect a "roadside repair." You may not make plans without consulting him; he is ruthless in his discouragements; he spends your money with a fine liberality, and you learn to dread his statement of accounts, presented on the oily page of a notebook. He smokes the vilest known cigar-

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ettes—there seems to be a brand especially blended for chauffeurs: he eats and drinks expensively, and at the wayside inn where you put up he monopolizes the service. He is too often unclean in his person; in a word, he is a bane and a shadow on your life; and he is deadly competent when he chooses. So far of the Idle Chauffeur.

The Industrious Chauffeur is often an enthusiast. in spectacles, with the manners of a student of divinity, a whole-hearted devotion to his employer and his employer's motor-car, and an incorrigible tendency to misfortune. It is he who stays up all night wrestling with the magneto, has it remounted by nine in the morning, arrives, bleared, unwashed, but smiling, to tell you all is ready, and then, when he goes to start the car, finds he has forgotten to put in the bushes. It is he who, in a week of wet weather and a fit of fanatical enthusiasm, takes your car to pieces and is unable to refit the gears, so that expensive mechanics have to come from a great way off and take rooms in your village; he who loses a finger in your service, so that, dismayed, you see him bound tight to you in the bonds of misfortune;

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he who runs over a baby in the attempt to save a chicken's life; he who has a widowed mother and invalid sister, so that you are ashamed to discharge him. He knows no limitations of possibility, he is an enthusiast in the projection of tours, all can easily be ready at the appointed day and hour; and yet when the hour strikes the car does not come, and you know in your heart that the rugs and baskets and valises piled in the hall will not be wanted. He always has a reason; and when you do start you will find that he has involved you in an expense of £30 for a renewal, because he did not like to incur the expense of £5 for a repair. He shrinks from prevention, and plunges you into cure.

Between these unhappy dilemmas there is but one sensible course of action for the ignorant owner. He must cease to regard his chauffeur as the mysterious professor of an occult art who collaborates with him in enjoyment; he must regard him as a servant—a responsible and trusted servant—but yet a servant, who is there for the express purpose of doing one thing and doing it well. There has hardly been time yet for a definite class of English or American

chauffeurs to have been evolved; at present they are too often odd-job men, failures at other trades, who have picked up a smattering of motor knowledge in a workshop. The French chauffeur is not to be recommended to ordinary people. He is clever enough, and may keep your car going; but he will probably do so at great expense, he will certainly have a tendency to drive too fast, and he will be unable to fall in with the habits and traditions of English or American outdoor servants. Germans are better; but unless you have a Mercédès car, I do not even recommend a German.

The motorist who has time or inclination to look after his own car, with occasional help in washing and cleaning, will be saved out of the dilemma of the unsatisfactory chauffeur. For I am afraid that the ordinary chauffeur is unsatisfactory; partly because of the irregular nature of their work; partly because the owner is too often ignorant of his servant's duties; partly—and in only a proportion of cases—because a bad class of man is attracted to work of this kind, which seems to offer unlimited opportunities for idleness and shirking. But these are all reasons which

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need not and ought not to exist; it is far from being impossible to have one's motor-car well and faithfully looked after by a servant; all that is necessary, given a fairly honest man (and I am not such a pessimist as to suppose that such are not plentiful), is that there should be a very rigid definition of his duties and responsibilities. There is plenty of work other than driving or cleaning in connexion with a motor-car that will occupy a conscientious man during most of his off days, and I have never yet noticed a tendency on the part of owners of motor-cars to underwork their On the contrary, the chauffeur is often expected to be of the same hard material as his engine, and to keep going all day, from the time he takes his master to the City in the morning, through shopping, calling, driving, until he brings his mistress home from a theatre or party at night. Such a man, of course, will probably not keep his car in very good order; but one who is reasonably worked will find time to give his car that daily attention which is almost necessary to the preservation of a high state of efficiency.

There are two good ways of securing a careful chauffeur. If the car is a small one, any youth

with a head on his shoulders and some taste for machinery can learn to look after it, and his wages need not be more than from 10s. to 18s. per week, according to his age. One does not, however, want to turn such a youth, with absolutely no experience, loose on a brand-new motorcar, however small, and it becomes necessary to teach him. The best way, and in the end not expensive, is to let him go for a month or six weeks as a "supernumerary" to the works at which the car has been built. The foreman, in return for his work and help, will teach him a good deal, and if he is a bright youth he will pick up even more than he is taught. He will, at any rate, know what the inside of the car in his charge is like, how it is made, how fitted together, how best repaired; and the knowledge will enable him to undertake many small repairs and adjustments which would cost a good deal of money annually if they were done at the works.

This, however, is only an expedient, although in many cases it is quite a sufficient one. But where a large car is kept in constant use more expert services are required, and in that case the best thing to do is to engage a mechanic—that is,

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a man who has served his time in an engineering shop—who is also a good driver; but practically any mechanic can be taught to drive a motorcar in a few weeks. English mechanics are as a rule a good class of men, sober, competent, and trustworthy; your only difficulty may be that some of them do not like being treated as domestic servants. That is to say, they may object to wear livery, and so forth. Well, those difficulties can be got over. For touring work no one wishes to have his chauffeur in conspicuous livery; in fact, nothing looks better than a plain dark blue serge suit and peaked cap, which no one objects to wear; while a little tact in the handling of your chauffeur-whom in this case you may even call your engineer—will secure from him all the propriety of behaviour that you can desire. wages of such a man will probably be £3 per week-good wages, of which, if he be competent and conscientious, he will earn every penny. Your terms with him should be quite simple. you should say, "are a good motor-car, good wages, clothes, a house (this by arrangement); I will not grumble at a reasonable expenditure on upkeep, spare parts, etc. The terms are that when-

ever I want the car, it and you must be ready. You may have to stay up all night getting it ready: I want to know nothing about that; all I care about is that it should always be ready and in good condition—which means that whenever it comes in you must not leave it until it is cleaned. washed, filled, and ready for the road. You may expect a whole day off every week, and you will often not be required for days at a time; but you must always be ready. If not, it will be understood that you have failed in the performance of your duties, and that you go." Any good man will cheerfully accept such terms. He will often be hard worked, but he will often have days in which his time is practically his own. His skill will be sufficient for all ordinary repairs, and the car need never be inside a workshop except for its annual overhaul. You will soon discover if he is extravagant in the use of material, spare parts, etc., and if he is, be able to check him. He will save you money, in spite of his large wages; and you will have the satisfaction of knowing that your car starts out every day in the pink of condition. For it is work that makes a motor-car go, and idleness that causes it to stand still by the roadside.

XII THE MOTOR-HOUSE

THE MOTOR-HOUSE

THEN you have bought your motor-car, or even before you have bought it, it is necessary to consider a housing problem of some importance. Too often, in their haste to possess themselves as quickly as possible of a new motorcar, people trust either to some second-rate garage or to the provision of temporary shelter in some neighbouring outhouse or stable, with the result that the car is often seriously damaged in the first few weeks. A first-rate and really well-managed garage, although it is apt to be expensive, is a very good place to keep a motor-car; but the second-rate garage, badly supervised, crowded, and ill-ventilated, is a snare in itself and too often the happy hunting-ground of the dishonest chauffeur and the motor thief.

If you intend to keep a motor-car, then a few pounds spent on the provision of a suitable

motor-house are well laid out, and will probably save their own equivalent in repairs and renewals within a very short time. The essentials of a good motor-house are dryness, drainage, and ventilation: the conveniences which can be added to these are many, and are only limited by the amount of money which you are willing to spend on your motor-house. But first as to the essentials. In most cases there will be a coachhouse or similar building available, and this with a little alteration can be made into a very good motor-house. There should be a top light large enough to admit plenty of daylight when the doors are closed, as darkness is a great friend to inefficiency and slovenliness in the care of a motor-car. If the windows are very large and of clear glass a blind or other means of screening them should be provided, as the direct rays of a hot summer sun would be injurious to the tyres, and would raise the temperature of the house too high in hot weather. Moreover, it will be necessary to make greater provision for ventilation than is usual in a coach-house, and two or three shafts with very free openings should be provided, so that any fumes of petrol can be quickly

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carried off. The volatile nature of motor spirit makes its storage, even in the tanks of the car, extremely dangerous in a building which has not these free openings, as even a small leak from the tank or its connexions may be enough to fill the house with highly inflammable vapour.

The next thing to be considered is the floor. If there is a wooden floor in the coach-house it will not be worth while to alter it, though personally I prefer a tiled floor, or one laid in concrete deeply channelled; but dryness of the wooden floor is a point in its favour. It will be necessary to see, however, that the spaces between the planks are closely filled in, preferably with the material used for the decks of yachts, as it is absolutely necessary that petrol and oil should not run down between the planks. A pit in the motor-house is not an absolute necessity, and if there is space available it is better to have it outside; but in any case it is a great convenience, and it is better to have one in the motor-house than none at all. It need not be more than three feet wide by four or five feet long and about four feet deep, as it will have to be excavated under the building. The sides and bottom may

be lined with brick, or better still, with concrete. A small ledge on each side, three feet from the ground, may be provided to hold a movable plank or seat; it should be covered, not with a single cover, but by several short planks resting on another ledge an inch below the coach-house floor, so that it need not all be uncovered at once; for it is often convenient, while working beneath the car, to have as much floor space as possible available for tools and spare parts. A few brackets should be provided on the walls of the pit on which a portable electric lamp can be hung, for if it is at all possible it is a good rule to allow no artificial light except that of electricity within the motor-house.

The drainage of the motor-house, or even, if you like, the absence of drainage, is of the greatest importance. If a concrete floor is laid it should not be sloped towards the centre where the pit is; it should be sloped towards the sides, and finished off in a deep rounded channel without angles or edges, similar to that used in most modern hospitals for operating-rooms. The channel, however, should not, as in stable drainage, contain any grids; that is to say, there should be

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no drainage at all from the house itself, and any oil, petrol, or water should be allowed to run into the channels at the sides, whence it can be mopped or soaked up with cotton waste. The reason for this is obvious. Heavy lubricating oil, like soap, chokes a drain, while petrol is one of the most dangerous things that can get into any drainage system. Even the pit itself should not be drained, but have the floor merely channelled, with a well at one end like a gravy dish; or if there is any drainage it should be through a large open pipe fitted with a plug, and should discharge into some tub or reservoir in the open air, where its contents can be got at. But it is much better that there should be no drainage at all. If the car is properly looked after there should never be any leakage of petrol or water, and no more of oil than can be easily mopped up every day with a waste-mop. addition there should always be a bin of sawdust in the motor-house, and one of sand. If there should be any considerable mess of oil on the floor, sawdust can be sprinkled over it to absorb it and keep it from the tyres until it can be swept up. The sand is kept in case of a fire

either in the car itself or owing to the spilling of petrol. If sand is thrown on to the burning part of the car it will soon put out the fire; but it is hardly necessary to say that water used for this purpose is worse than useless, as the petrol floats and spreads upon it, and the conflagration is increased.

XIII

WINTER HABITS OF THE MOTOR-CAR

WINTER HABITS OF THE MOTOR-CAR

WINTER is not an ideal season for motor- ${f V}$ ing, and many motorists who are not able to take their cars away to a sunnier climate will probably make little use of them between December and March. I am quite aware that this hibernation of the motor-car is not really necessary, because it is not, and should not be, regarded as a fair-weather vehicle. People with good circulation can enjoy motoring on decent roads in almost any weather, provided they take proper precautions as regards wraps and waterproofs; but the fact remains that dwellers in towns, at any rate, turn their thoughts away from the road in these dark and inclement months, and occupy themselves more closely with indoor matters. In these circumstances the motor-car is likely to be none the better for its

three months of disuse, especially if that disuse implies neglect also. Many people have taken their last winter ride in December on a car that was as good as new, and their first spring ride in March on a car that had unaccountably aged in the interval and become obviously secondhand and the worse for wear. This can easily be avoided if due precautions are taken at the beginning of the dead season. When a sailing boat is laid up for the winter, whether it is beached and hauled up or moored in a harbour, it is not left in the same condition as that of its period of daily use. It is unrigged, snugged down, its brasswork is greased, its spars given a coat of oil paint and put away. But a motorcar, which consists of many more perishable parts than a sailing yacht, is too often left all through the winter in its ordinary running condition, with results highly detrimental to the efficiency of the machinery.

This is not at all as it should be. People who wish long life for their motor-cars and do not expect to use them much during the winter will be wise to lay them up at the beginning of the bad season, even at the cost of some incon-

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venience and sacrifice of their usefulness, where an odd day's run might be indulged in if the car were available. I am writing now for the benefit of people who wish to do their motoring economically, and who are willing to be without a motor-car in the winter months for the sake of saving in depreciation and an extent of wear and tear that makes the occasional winter run an unduly expensive luxury. For such people the expedient of laying the car aside for three months of the year will make a very great difference to the annual cost of its maintenance. If economy is not an important consideration, or if it is of less importance than the luxury of having the car available for winter excursions, then it is not worth while to lay it up. And it need hardly be said that people who live in the country through the winter, or who use their car for any other purpose than that of pleasure, will not find it possible to be deprived of their motor for three months just because the weather and the roads are bad. Such people will probably find their cars more useful than ever, for there are no circumstances in which the motor-car, once indulged in, becomes such a necessity as in the

lives of people who live in the country at some distance from a railway station.

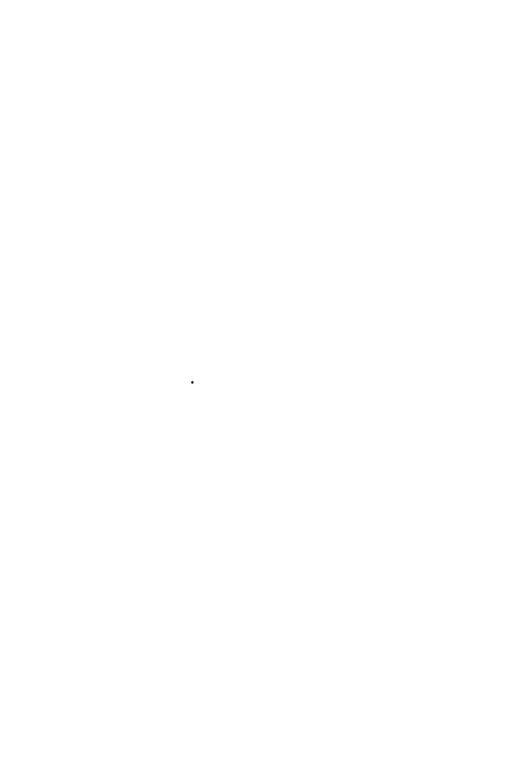
If the motor-car is to be out of use, however, it should be properly laid up. The first thing to be done is to have it thoroughly washed and cleaned, the petrol tank emptied, and the watertank and its connexions drained of every drop of water. The oil tanks and lubricators alone may be left charged. The carburettor should be disconnected, emptied of its contents, and cleaned and polished so that no rusting can take place. The car itself should be put in its place in the motor-house and jacked up so that the wheels are well clear of the ground. Four stout wooden props should previously have been prepared, of a proper length, and these should be placed so that the car stands upon them, resting on the frames and not on the axles. This relieves the springs, which can now be lubricated by the insertion of a stout knife between the leaves and the application of a little oil or grease. engine should be very thoroughly cleaned and polished, both inlet and exhaust valves taken out, ground bright with emery powder, and their spindles and springs rubbed with vaseline, after

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having been thoroughly cleaned. All bright parts should be polished first and then greased also with vaseline; and a pure quality should be used, otherwise it will be difficult to get any polish on the plated work after the vaseline is removed. Finally the whole of the engine and adjacent parts should be brushed well over with a brush dipped in clear thick oil. If the car is driven by chains they should be taken off, thoroughly cleaned in petrol or paraffin oil, and then either greased with tallow or polished and put away in a dry place. It is better to take the tyres off, because of the rust that is almost bound to get in through the bolts. The inner tubes should not be folded up in a drawer, but should be slightly inflated and hung up on a properly shaped bracket. outer covers may be laid on their sides in a dry place where the temperature is even, the bolts and wing nuts being greased and put away separately. The coach work should be thoroughly cleaned and polished until not a vestige of damp or grease remains in it, so that it clouds and clears again when breathed upon, like a mirror. It is better in the damp season not to cover the car over with a heavy waterproof cover, as this

only imprisons such moisture as may find admittance; a light dust sheet open at the sides is all that is necessary for the protection of the leatherwork. A car in this condition, with every bit of unpainted metal-work well greased and with all the bearings lubricated, will rest snugly, safe from damage and depreciation, through the longest and coldest winter until the spring sunshine steals into its prison and calls it out again to life and the roads.

XIV ABOUT DRIVING



T is not every one who desires to drive his own motor-car; but for people of an active temperament the pleasures of touring may be agreeably varied if the owner sometimes takes the wheel himself. Advice on this point, however, is hardly needed, because people are divided into two classes—those who, whether in a boat, dogcart, or motor-car, are not happy unless they have the control and direction of affairs in their own hands: and those others who are either indifferent or will not be induced to assume such control and direction in any circumstances what-Motorists of the second class are of course entirely dependent for their safety and comfort on the chauffeur, while those of the first class are somewhat more hazardously committed to dependence on the degree of skill and nerve which they may have acquired.

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The English Automobile Club is doing a useful thing in the encouragement of motorists to qualify themselves for and obtain the driving certificates which it issues. Just at present, when the ranks of motorists are being every week increased by a large number of people who know nothing of motor-driving and are new to the ordinary problems of traffic, there is an increasing risk of accidents caused by the ignorant and incompetent handling of motor-cars. In some respects it is so easy to drive and control a motorcar; it seems so very safe, with its provision of brakes and clutch, that most people, novices at driving, take their motor-cars out on the public roads long before they are competent to do so. It is commonly said by the ignorant that motorcars are not sufficiently easy of control, but as a matter of fact they are very easily controlled—far more so than any horse-drawn vehicle; the real need for control is with the people who drive them, whose nerves and muscles are not always sufficiently under control to make their driving safe for other people. In these circumstances some standard by which drivers can be examined and certificates granted is a matter of great importance.

Of course it should not be necessary for a private body to attend to a matter which intimately concerns the public safety, but the Motor-cars Act has no provision for making it reasonably sure that the people who drive motor-cars are competent to do so. The county councils in England issue driving licences and require every one who drives a motor-car to possess one, but they are used merely as a method of identification; there is no examination, and the only qualification necessary is the ability to pay the shilling fee. There is one well-known case in which a blind lunatic sought for and obtained from the London County Council a licence permitting him to drive motor-cars on the public roads. But so troublesome and expensive is any real system of examination that it is doubtful whether, if it were undertaken officially, it would be properly carried out. Certainly it is not properly carried out even in France, where such things are so much better managed. I myself possess a licence and certificate entitling me to drive motor-cars in France, but I was never examined. There was a deal of pleasant conversation and bowing and cigarette-smoking in the office of the Conseiller

de Préfecture in the seaport where I landed, and many documents were signed relating to the Seine-Inférieure, the Service of Mines, a remote little village in Ireland, and, dimly, to myself; but of examination there was no word. The Conseiller would not have been so impolite as to suggest that I could not drive, and the whole affair passed off in cigarette smoke.

It is, then, in a genuine effort to secure efficiency and to safeguard the public safety that the Automobile Club has undertaken to examine the drivers of motor-cars and test their ability to drive in traffic. If their effort is to be rewarded and a real increase secured in the competence of motor drivers, it can only be by the general adoption of their views by motorists of standing. An Automobile Club certificate for driving ought to be deemed as necessary a qualification for the motorist as a Board of Trade certificate for navigation is for the masters of any but the smallest yachts. And this result can only be achieved if all motorists, the most competent and experienced drivers as well as those who are only novices, make a point of submitting themselves to examination and obtaining the certifi-

If this can be done—and if motorists who complain so often of the lack of public spirit in others will be public-spirited enough to support this scheme, it can be done—it will soon become exceptional for a motor driver not to possess a Club certificate, and people will refuse to employ chauffeurs who have not that qualification. the county councils could be empowered and induced to refuse their licences to any one not possessing the Club certificate, it would have an excellent effect; but one can hardly hope for that. What is done in the matter can only be done by the force of public opinion, and it is for that reason that I urge upon every motorist the duty of securing a driving certificate as soon as possible. The examinations need not be too easy, moreover. There is no reason why a woman, say, who wishes to drive a little 6-h.p. car should be submitted to the same tests as a man who wishes to race a 90-h.p. machine, but it would be deplorable if the mere ability to drive the 6-h.p. car should be a qualification for driving anything and everything. There should be three divisions of the test—one for the driving of cars under 10 h.p., one for the driving of touring cars of 10 h.p. and

over, and one for the driving of racing cars. And the test in each division should be severe enough to enable the examiner to say with a clear conscience that the successful candidate is thoroughly qualified to drive cars of his division. The mere answering of questions will not be a sufficient test; it will be necessary to study very closely the candidate's behaviour at the steering wheel in a crowded street, and in some cases in the course of a spin at high speed along a country road. It will therefore be a costly examination. but the difference between the somewhat low fee which can reasonably be charged for it and its actual cost is just the sort of expenditure which the Automobile Club ought to undertake. Naturally the examination fee should be higher for non-members than for members.

The art of driving motor-cars consists of two separate and entirely different functions—the management of the engine and gearing, and the steering and control of the car itself. The first is like engine-driving, the second like steering a boat, and the ideal driver is only to be found among people who have the qualities necessary for both tasks. Both are largely a matter of tempera-

ment and nervous organization; the mind must do its work subconsciously, it must be automatic and yet alert, mechanical and yet able to deal on the instant with conditions of emergency. It is possible to drive a motor-car quite safely and passably without having any real sense of machinery or knowledge of the engine; but that is strictly speaking only steering a motor-car, which will not be seen at its best. Yet so far as the public is concerned, this part of driving is by far the most important, since it depends entirely on the nerves and quickness of the driver.

Steering a motor-car, we have said, is like steering a boat; there is in fact no preparation for motor-driving so good as the habitual sailing and handling of small boats, in which there is seldom any room for making mistakes, and where one's life depends on a thousand automatic mental calculations of extreme nicety, and on the ability to act with decision and lightning promptitude. And just as the steering of a boat consists not in the correction of deviations from the course, but in the anticipation and prevention of such deviations by proper use of the rudder, so in a motor-car the proper use of the steering-gear consists in

holding the car on a straight line or curve, and not in continually guiding it back to a series of positions which it has lost. The best way to learn to steer a motor-car is to get some expert friend to drive it rapidly over a damp road where its tracks will make clear straight lines, and then to drive it oneself slowly over the same road, keeping the front wheels in the same tracks. This will not be found by the beginner to be as easy as it looks, yet it is only the first step in steering, and involves a method—i.e. keeping one's eyes fixed on the front wheels-which must afterwards be abandoned. The only way to drive a motor-car really straight at anything like high speeds is not to keep one's eye on the front wheels, but on the road some distance in front of one, so that one's hands are continually and automatically bringing the car straight up to some point in the road which the eye has seen and chosen before. This will not, as you might suppose, put you out of your wits; the fact that the spot towards which you are driving is continually running away from you need not dismay you, for you can stop it and overtake it, and indeed drive over it, whenever you like.

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There is one danger about which every novice at motor-driving should be warned, as it is very subtle and is only avoided by great self-control and foresight. If you are new to driving and are touring over long distances every day your nerves and muscles will, unknown to yourself, undergo a change which will prepare disasters. The time that you are most likely to have an accident is at the end of your first long day's drive, when everything has been going well all day, and you approach your destination feeling that you are now thoroughly at home with the motor-car and that driving is a very easy matter. If anything gets in front of you at this moment, no matter how long beforehand you may have seen it, or how easy it would be to avoid it, the chances are five to one that you will run into it. All day long you have been going on; you have overtaken and passed carts and people, and they have all somehow or other got out of the way and melted from before your progress. As the day wears on and these miracles still happen, you come unconsciously to believe that the hand of God is upon you; that you are ordained, like Time and Destiny, to hold straight on your

course, and that the things which appear to get in your way are but illusions of the senses that will disappear like morning mists. You become hypnotized by the constant straining of the eve on the road before you; your senses tell you that it will be a road always clear for you as it has been all day; and it is not until you smash into the back of a farm-wagon that you awake to the fact that the things you have seen on the road are not illusions, but matters of hard substance, of wood and iron and bone, inimical to life and safety, if too suddenly materialized by your impact. This is a fact with which every experienced motorist is familiar: but it is one seldom driven into the brain of the novice except by the force of some such gross concussion as has been described.

There is more than one reason why the owners of motor-cars should be qualified to drive them. For one thing, it promotes efficiency all round, and therefore (paradoxical as it may seem) is of benefit to the public safety. No one can make a habit of driving a motor-car happily or comfortably who has not learned to do it well; therefore it is probable that people who do it for pleasure will do it at least moderately well. For another

thing, if it were the custom for owners to drive their own cars we should see less of over-powered and over-sized vehicles on the roads. It is not really pleasant to drive a high-powered car on English roads; the physical strength required, if speed is to be maintained with anything like safety, is considerable, and the strain on the nerves is of a kind that no one would habitually undergo for choice or pleasure. People who always drive their own cars soon find that, if their pleasure is not to be turned into toil, the lowest horse-power consistent with the work the car has to do, and the smallest dimensions consistent with the accommodation it has to provide, are desirable in the interests of their comfort. over, the sense of responsibility is always greater in the man who is driving his own car than in the man who is paid to drive his master's; he is more considerate, more careful, if only of the car; and therefore, provided he knows how to drive at all, his driving is less offensive and more safe for the general public than that of the ordinary chauffeur.

Provided—but it is a large provision. The trouble is that people will insist on driving long before they are qualified to do so. I have

given some simple advice as to the best way to learn the very first steps of motor-driving; but the acquisition of that knowledge would no more qualify any one to drive a motor-car on the public roads than the ability to manipulate steam steering-gear would qualify him to steer a ship safely through a crowded anchorage. The truth is that the mechanics of motor-car driving are so easy that they tempt every one to master them, while the psychology of it is so difficult and obscure that many people do not realize its existence. Yet it all expresses itself in three physical qualities-nerve, ear, and touch. It is the acquisition of these, in a greater or less degree, that makes the finished driver; it is the absence of them that renders useless any amount of theoretical knowledge, and produces the dangerous blunderer liable at any moment to lose his head, and almost certain to do the wrong thing in the fatal second of an emergency. possession of these three qualities in their highest development seems to be an accident of nature, or at any rate a result of very earliest training. Thus the child who has been taught not to pick his toys up by the wrong end, and to know the

difference between a thing upon which he may and a thing upon which he may not throw his weight, becomes a boy who instinctively handles tools in the right way, and may afterwards be trusted with guns, boats, and motor-cars. show me a little boy of eight or more years who continues to lift his wooden horse by its tail, in spite of the memory of many tails divorced from their horses, or who takes hold of his model yacht by the mizzen shrouds or the peak halyards, and I will show you a little boy who will never be able to drive a motor-car well. So much the better, you may say; but it is the same little boy who will in after life be very liable to tie double-grannies, move with his feet in dangerous places before he has hold with his hands, and leave a cartridge in his gun; and so much the worse for the little boy's friends.

Nerve, ear, and touch can of course be cultivated for the purpose of driving motor-cars, and, as we have said, be attained in a greater or less degree. Nerve, in this slang sense, may be described as the faculty of balancing the mind and nervous organization against surprise and shock; and as applied to motor-car driving it means the

realization, in a fraction of a second, that no situation is desperate, and that there is a way out of every difficulty. Ear and touch, but touch especially, will supply the way out of that difficulty; touch is the faculty of seeing with the fingers, of deciding, by pressure on a wheel or a lever, what amount of force must be opposed to their resistance to produce certain results. All these qualities must be exercised naturally, easily, and unconsciously; the pulse must never beat faster, even in awkward moments; confidence, certainty, assurance must all join in the conspiracy against accident and the unexpected. And in all matters connected with the guidance of a rapidly moving vehicle, the eye of course plays an obvious part. That correspondence between brain, eye, and hand, so that conditions are seen, understood, and acted upon instantaneously, which is the basis of all dexterity, whether of pianoforte-playing, shooting, boatsailing, golfing, or motor-car driving, seems to exist naturally in some people, and in others only to be induced by careful training. Some children of three or four years can climb or run on uneven ground with natural ease; others

sprawl and stumble, putting their feet where they did not expect to put them, and missing the hold they aimed at with their hands by a wide It is easy to train children; but it is distance. not so easy to train the eyes and hands of grownup persons who have never acquired a really fine co-ordination of their uses. But some degree of certainty and dexterity can be acquired by proper practice; and in driving a motor-car the way to learn is to drive very slowly until a complete confidence is established. The nerves must never be tried or shocked by the sensation that the car is getting out of control; the thing attempted must always be well within the powers that have been acquired; and a very gradual extension of it will lead imperceptibly to fuller control, and as easy a mastery over the whole range of the car's behaviour as was formerly achieved over a part of it.

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WHETHER the planning of a journey or the journey itself gives the greater pleasure is a matter of temperament; but the many accidents and incidents which may mar the accomplishment are at any rate absent from the anticipation, which is on that account a thing not to be scamped or neglected. There is nothing that lends itself to more agreeable anticipation than a journey by motor-car, and nothing of the same kind for which so many ' and varied proposals can be made; and it is important that these should all be well canvassed before a start is made, so that not only the places which one proposes to visit should be chosen, but also the whole nature and method of the holiday be decided upon.

There are two broad groups into which tours by motor-car can be divided. There is the journey

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which is accurately planned out beforehand in every particular, such as what places and hotels we shall stop at, what time we shall arrive, and what time depart from them. In this way the whole tour is spread out in imagination beforehand, and one's journeys have the added interest (highly valuable to some minds) of order and punctuality. The pleasure of keeping to a timetable, indeed, smacks too much of slavery to please every one; and if there is a great, though unholy, pleasure in drawing up at, say, the Hôtel de l'Univers at Tours at a quarter-past four on the fifth of the month, there is a corresponding disturbance and distress if, by any misadventure, one should not arrive there until a quarter to five on the sixth. The whole expedition is thus put out of joint; those twenty-four and a half hours are never recovered, and exist as a dreadful void or debit in the imagination. But they belong to the risks we take when we draw on our pleasures in advance, and must be regarded as belonging to the disadvantages inseparable from the whole vicious system of punctuality.

The other kind of journey, more agreeable to the adventurous mind, is that in which one starts

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out with the world before one, with no itinerary but that suggested by one's desire of the moment, and no intention but to please oneself. better to use this system on a motor tour than on a walking tour, because if by any chance one's whim should lead one into a dreary or unpleasant country, one can soon get out of it again on the motor; whereas in walking one has many disagreeable steps to retrace, and there is nothing more fatiguing than such retractions through a country which does not please. On the other hand, the motor-car has to be considered a little, and as one is dependent on good roads it is as well to practise this vagrant habit with caution, or only in places where one knows that the roads are good. In England, for example, or in a great part of England, it can be adventured on a moderate-sized motor-car with safety and success, because our roads, none of them superlatively good, have yet a fairly high average of efficiency; in Ireland it is simply impossible, because a road in Ireland is fairly good or shockingly bad; in France, where it is most tempting, it is least safe, because there, once one is off the routes nationales or their immediate tributaries, one

gets on to roads which may begin fairly well, but as likely as not finish in some quarry rut or trampled quagmire before a farmhouse. Perhaps the ideal tour for a motor-car is that in which one combines these two methods; in which the chief points of one's journey are decided upon beforehand, and its outlines mapped out, but in which questions of what road we shall go by from place to place, or how long we shall spend in going, are left to the decision and fancy of the moment. Thus one has certain fixed points to which (in case of accident) supplies or spare parts can be sent, and at which, if one wishes it, one can resume contact with the world.

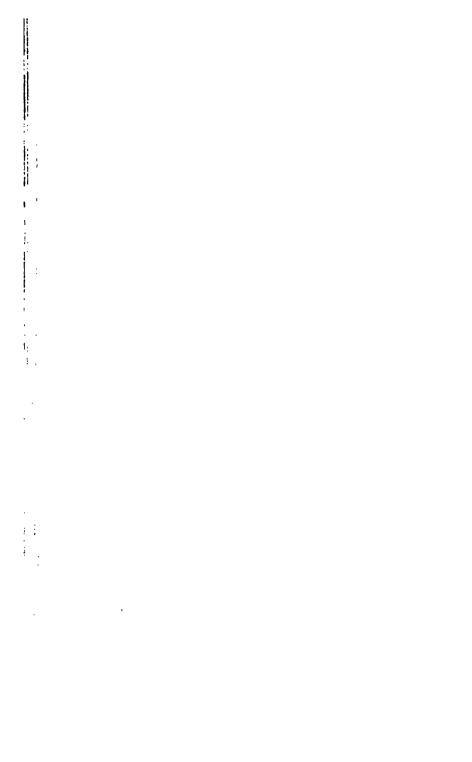
Before setting out the car should be stripped bare, and the whole of the stores, spare parts, etc., which it is proposed to take should be spread out on a long table in the motor-house. Tyres are things upon which one is absolutely dependent, and not less than two new outer covers should be carried, as well as, say, half a dozen inner tubes; for it is better to keep one's punctured inner tubes to be repaired in the workshop than to attempt repairing them on the road. It is well to carry one spare cover in forks on the step at the



driver's right hand; the other, and four of the inner tubes, as well as any spare parts not likely to be wanted, should be carried under the floor of the car, a false bottom being fitted for the purpose. This plan is seldom adopted, yet it has many advantages; and the slight extra height which it gives to the flooring and the back seats is rather an advantage than not. Other spare parts should be bolts and nuts of every size and shape; two spare inlet and two exhaust valves; sparking plugs (six) if the ignition is hightension, and a complete magneto, if by magneto; a spare battery fully charged, for high-tension ignition; plenty of insulated wire, copper wire, rubber tubing of the same gauge as the copper piping of the water system; a spare water pump; belting for the fan (if belt-driven); in a word, duplicates of all the small and easily detachable parts of the engine and gears. It may sound cumbersome, but it is the only way to feel secure from breakdown. With these precautions, and a small proportion of ordinary luck, there need be no fear that the journey will be interrupted by any misdemeanour of the car itself.

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XVI EQUIPMENT



EQUIPMENT

ALL pastimes continue in interest only so long as they keep at bay the host of parasite accessories which tend to devour them. The motorist, no less than the Alpinist and the amateur gardener, is in peril of this invasion, and how far he sinks beneath it is largely a question of the pocket. With the example of the golfer staggering under his load of useless clubs and the photographer sitting confounded in the midst of his litter of patent shutters, printing-frames, and bottles of noxious acid, beware, O motorist, lest thou too lose thy first pristine enjoyment, and lie stifled beneath a weight of leather cases!

The equipment of the car itself and the things which must be carried if it is to perform its proper task with precision and punctuality are many and costly enough, so that the traveller who has a mind to economy must not indulge

himself unduly. Yet if one is to travel for many days or weeks, and have always at hand the things that make for comfort on a journey, it is necessary to make very careful preparations, so that one shall not be on the one hand overloaded with useless baggage, nor, on the other, forced to do without some comfortable accessory of travel which a little forethought would have provided. And here, again, the kind of journey one proposes to take must be remembered in choosing one's equipment. If it is to be a daily run from one hotel to another, very little baggage will be wanted. If our journey includes visits to friends in the country, of course the amount of luggage will be at once increased, although in this case it is as well to have a trunk or two packed with what is specially required on such visits and sent on by rail from house to house. Again, we may wish to be really adventurous and to camp out sometimes. in which case tents, cooking apparatus, sleepingbags or camp beds, and the whole furniture of a camp must be carried. This is not so formidable a matter as it may appear, for the needs of motorists have been specially studied, and there are camp equipments sold which are specially

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designed for transport in motor-cars, and which take up very little room. Only in this case, in addition to the small sleeping-tent supplied with such equipments (which is not exactly a luxurious apartment), I recommend the carrying of several large square sheets of thin waterproof fitted with holes and brass rings at intervals along the edges. These, with a plentiful supply of stout cord and a bag of tent-pegs, will make possible the erection of all kinds of luxurious tents, according to the nature of the place of encampment, and provided there is some large and high object, like the motor-car itself, to form the background of the structure. It is assumed that the motor-car is fitted with a long Cape-cart hood, which when it is set stretches forward over the whole length of the car; some such means of shelter is quite necessary on a car used for touring.

The arrangement of the tent is very much a matter of personal ingenuity; but one good way is this: Turn the car broadside to the wind, open and secure the hood, and fasten the side curtains in place. Now take a large waterproof sheet, fasten one edge of it along the top of the hood on the lee side of the car, and secure the opposite

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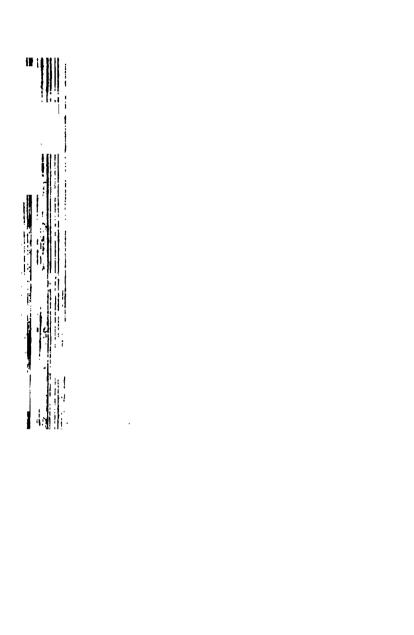
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edge with cords and pegs to the ground at such a slope that the lower edge is about two feet off the ground. The sheet being square will fall naturally into triangular flaps at each side, one of which must be secured to the wheel of the car, and the other left loose for a door. You will now have a lean-to which will be clean, sheltered, and airy, especially if another sheet be fastened against the sides of the car to cover the wheels and steps, and another (of course) spread on the ground. This can be used as a sleeping-room and the inside of the car itself as a dining-room. It is only one out of many ways of improvising a tent out of a motor-car.

In providing a camping equipment there is more danger that the inexperienced will carry too much than too little. The essentials are the waterproof sheets, a good-sized spirit stove and equipment of saucepans and kettles (which are made to fit into each other and take up very little space), canvas bath, basins, and buckets, and either a small cork mattress and blankets or a sleeping-bag. If you are very luxuriously inclined you can carry a folding bedstead which can be set up in two minutes and when folded up

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occupies as much room as a bag of golf clubs; but that will depend on how much space you have to spare. If you have only one car, the luggage and equipment of two persons will probably make a very tight fit, and involve some skill in its packing and disposal. The really luxurious plan for camping out, for those who can afford it, is to travel with two cars, and send one on in front with the luggage; and in this case a truly noble sleeping-apartment can be made by stretching the waterproof sheet between the hoods of the two cars, and draping the sides and ends with other sheets. But this is a counsel of extreme luxury. As regards the table equipment, a well-fitted picnic basket is all that is wanted; food itself can generally best be carried in small parcels.

As to clothing and luggage, the best plan is to take as little as possible; sending on luggage in advance to any place where appearances have to be studied. A fitted suit-case will hold all that is wanted in the way of change; the rest, the motor clothing proper, is a matter of externals. Each passenger should have his own waterproof rug; there in nothing so annoying as to feel that one is

being robbed of one's due share of a common rug, and yet be unable to protest. An overcoat lined with soft leather, a white cashmere neckcloth, a waterproof overall with rubber neck and wrists, a pair of good goggles, lined gloves, and a cap with flaps to fit over the ears, should also be taken by each passenger; one is thus independent of any weather. It is also a good plan to have a large net basket fixed to the back of the front seats, in which maps and books can be kept on the journey. This also should contain a rubber bag containing a sponge wet with water and bay rum, or lavender water. It is wonderfully refreshing in the course of a long dusty summer's drive to apply the sponge for the removal of dust and heat, and the effect of the cool breeze on spirit is inimitably refreshing to the skin. Besides which, should a motorist have a dirty face?

XVII THE ROUTINE OF THE ROAD

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THE ROUTINE OF THE ROAD

O keep a motor-car in order on the road is a somewhat different problem from that presented by the conditions of ordinary day-today use, when the car returns to its own garage every evening. An even closer watch, if possible, must be kept on wear and tear of machinery when the car is touring, and the slightest defect must be remedied at once, in order that there shall be no interruption to the journey caused by the necessity for waiting for new parts. order that this routine examination and attention should go on automatically the chauffeur should have a very strict programme of duty laid down for him while the car is touring; and the owner himself should make a point of keeping an eye, not only on appearances, but on the hidden deeds of the chauffeur, so that he may be reasonably sure that the car is being looked after.

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Every evening, on arriving at the hotel where the night is to be spent, the car should be run on to the grid and have all movables taken out of the body and locked up in some convenient place. The cushions should then be taken out also. and the car rough-washed. This the chauffeur will decline to do himself, and, if he has been driving all day, it is not reasonable to expect him to do it; but he ought to make a point of being there and superintending the work of the carriage-washer, who is, as a rule, all too liberal with the water supply, and is given to playing the hose on the engine if he is allowed to. A really good chauffeur will not need to be reminded of his duty in this matter; but with most of them it is as well to point out that if they choose to employ some one else to wash the car the responsibility for it is still on their shoulders, and that they must superintend the When the car has been roughly operation. washed down and drained the wheels should be jacked up and the tyres very carefully examined. If the day's run has been over flint roads, and especially over roads where there are patches of new metal, it will probably be found that small

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pieces of flint have worked themselves into the covers; and these must all be carefully removed with a penknife, the cuts filled up with stopping solution, and the tyres deflated. Of course the car must not be allowed to rest on deflated tyres, and they must not be blown up again until the solution is quite dry. All this is a trouble-some operation, and will be shirked by an idle chauffeur, but on its proper performance will depend much of the usefulness and endurance of the tyres, and, consequently, the success of the tour; for to avoid punctures is to be saved from one of the most common and disagreeable causes of breakdown and delay. After the tyres have been attended to the petrol tanks should be filled.

So much should certainly be done overnight; whether the rest is done then or in the morning may be left to the chauffeur, provided it is done, and done properly, before the car sets out for the day's run. If the chauffeur is an early riser it is perhaps better to leave the examination of the machinery until the morning, for it is better done by daylight than by lamplight. In the morning, then, at least two hours before the time for starting, the oil-reservoirs and grease-cups should be

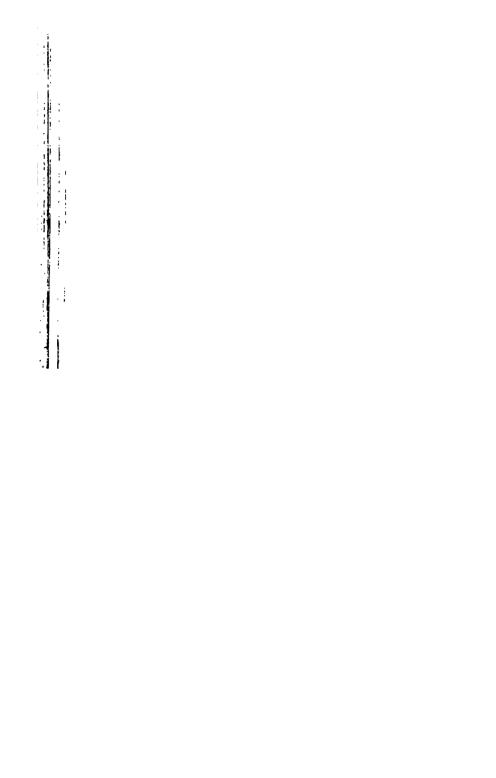
filled, the engine brushed over with paraffin and cleaned, and its exposed moving parts oiled by hand. It should then be started up and run, the chauffeur observing it very closely to see that everything is in order, and if anything is loose or in need of adjustment it should be tightened or adjusted on the spot. Any serious piece of work, the necessity for which may have been observed during the previous day, such as the grinding of valves or taking up of brakes, should not be left till morning, but should have been seen to overnight, so that nothing but adjustment is left for the morning. When everything on the engine has been examined the chauffeur should proceed to go over the whole car, beginning with the dust-cap of the axle on the left-hand front wheel, passing round the back and up to the cap of the front wheel, and finishing with the Ackermann steering bar. The hand should be passed over every nut and bolt, and anything loose tightened with a spanner. This operation properly performed will take half an hour, and, regularly and honestly done, may save many hours and sovereigns. When it is finished the chauffeur can wash and go to breakfast, leaving

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the car to be thoroughly rubbed over and polished by the cleaner—a good hour's work. time it is finished the chauffeur will have breakfasted and packed his bag, and be ready for the road. The cushions, properly dusted and polished, should now be put back, and the contents of the car packed into it again. chauffeur starts the engine, and takes a last look round, seeing that the lubricators are all dropping properly, and being especially careful to pass his hand over the wing nuts of the tyres, lest any should have been loosened in the cleaning of the wheels. He is then ready to drive round, collect his passengers and their luggage, and start on the day's journey.

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XVIII ACCIDENTS AND INCIDENTS



ACCIDENTS AND INCIDENTS

O motor tour is complete without its incidents; and although cynics insist upon calling them accidents we will not do so unless we lose our lives in them. As a matter of fact. accidents in a motor-car have a dignity and importance of their own, and should not be confounded with the series of small mechanical happenings which take place in the course of any extended tour and do no one any harm, but add, on the contrary, interest and variety to a journey. Fortunately accidents caused by motorcars are extremely rare in proportion to the immense mileage covered by these vehicles in the course of a year; when they do occur they are naturally more serious than accidents caused by horse-drawn vehicles. The accidents to which motor-cars are chiefly liable are caused by sideslip, failure of brakes, damage to steering gear,

and the breaking of a wheel. Accidents caused by side-slip are almost always avoidable, and need hardly ever be fatal if the driver has nerve, strength, and presence of mind; accidents caused by failure of brakes are more serious, but are also avoidable by proper care and examination of this important part of the machinery; accidents arising from either of the other two causes may very likely be fatal and are not easily avoidable, because they are as a rule due to obscure flaws in the metal which cannot be detected beforehand. But they are fortunately so rare that the possibility of them need not discourage the mind of any philosophic motorist. Side-slip is only dangerous when the car is travelling fast, and no sane driver travels too fast over very wet or slippery roads. Sometimes, however, even a careful driver is taken unawares by a sudden change in the surface of the road, such as occurs when one passes from sandstone on to limestone. In the same conditions of weather a sandy road will be perfectly dry, while a surface of limestone will be in an extremely greasy and dangerous state. Also in limestone districts one may be travelling over a hard, dry road in the open, and find on

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running on to a piece of road shaded by trees from sun and wind that the surface is treacherous and slippery; and if this change occurs at a bend of the road and the car is travelling fast there is very likely to be a bad side-slip. The use of Parson's chains or some form of non-skidding band on the tyres will rob side-slip of many of its terrors, but it will not entirely eliminate the possibility of a kind of accident which can only be prevented by constant watchfulness and caution. If a side-slip does occur, the only thing to be done is to throw out the clutch immediately and hold the car straight with the steering wheel—a thing which requires considerable strength and quickness if the car is travelling fast.

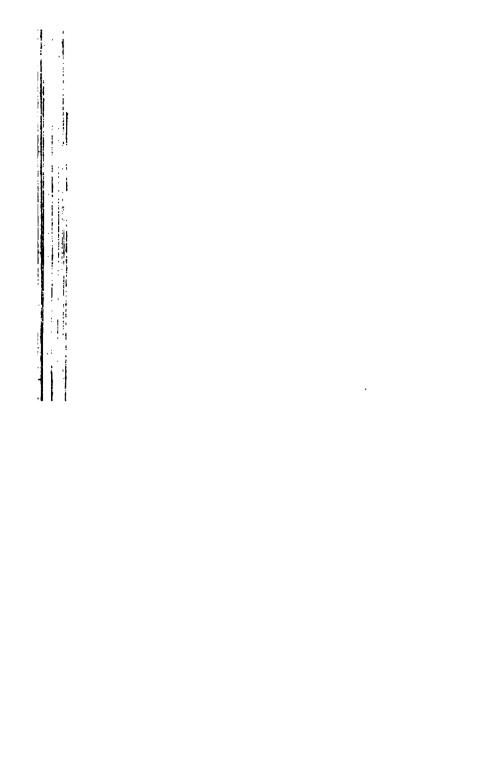
If the brakes should give out while the car is descending a long hill there is of course very little to be done but retain one's nerve and steer straight. It should be remembered, however, that the engine itself can be used as a brake if the spark is switched off and the clutch let in—or, in the case of a car with magneto-ignition, with the throttle closed and the petrol supply turned off. Of course this form of braking is gentle and gradual in its action, and would not stop a car in

an emergency such as I have described, but it is not used nearly enough in the ordinary course of driving. It throws much less strain on the car than either the side-brake or the foot-brake; its regular employment saves them from becoming worn out, and is therefore itself a safeguard against accident. In a real emergency, if a car is running away downhill and a smash is inevitable, the driver will have to decide whether or not it is well to steer into a hedge or gate or grass bank, since if a car is beyond control and is acquiring an increased momentum with every yard, the sooner the crash comes the better. these are grim considerations, and fortunately are outside the experience likely to be acquired by most motorists.

Incidents, on the other hand, are many and various, and furnish daily interest on almost every motor tour. The philosophic will regard them as a pleasant opportunity for alighting and smoking cigarettes, and will not therefore chafe under the burden of delay. If one has a competent chauffeur, an occasional three-minutes stop for the adjustment of a sparking-point or the clearing of a lubricator is altogether pleasant,

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and gives one an opportunity for stretching one's legs and picking blackberries. It is the chauffeur who will have to get his hands oily. As I have indicated in another place, such incidents as hot bearings, failure of the petrol supply, over-heated engines, or short circuits, do not happen on a well-regulated car and with a well-disciplined chauffeur. The only incidents which are at all common and which are really unavoidable are punctures. These, in the present condition of the rubber industry, must be regarded as an act of God; from which consideration let the pious motorist take what comfort he can.



XIX THE DAY'S JOURNEY

I T is well on starting for a motor tour to form some general plan for each day's journeyhow many miles should be covered, the hours at which one should set out and arrive, and so on. It makes a wonderful difference to the comfort and success of the journey if these details are all roughly settled beforehand, so that the driver has his instructions and plan of daily work. And first, as to the number of miles to be covered. It is assumed that the object of the journey is not to travel over as much ground as possible, but to see and enjoy as much as possible. This means that one should not only not travel too fast, but should leave enough margin on the daily timetable to allow for the exercise of a little caprice, and for the indulgence of the fancy of the moment in the matter of stopping and delaying for a little in some pleasant place. The novice at

motoring should be warned that there is no temptation so powerful as the temptation to keep going on. The sanest people suffer from it; delays (if the temptation be yielded to) become matters of vexation; the driver will always discourage them, and look discontented if he is asked to slow down or to stop. But delays are one of the joys of true travel; and to be able to stop on the shoulder of some mountain road and quietly take in the view, to go slowly through some enchanting valley, to pause wherever and whenever one has a mind—these are among the real and too-often-neglected advantages of the motor-car as a travelling carriage. Who has not looked out of a railway train, as it flies past woods and villages, beside quiet rivers and lonely roads, and not longed at this point or that to arrest its inexorable progress, to alight and rest in some sunny glade seen in a flashing moment, to go back and recover some suddenly revealed, suddenly lost glimpse of beauty, and to take up one's dwelling there for ever? But the train. bound to its time-table, rushes headlong on like Old Time himself, heedless of our longings and regrets, and only pauses in some smoky dismal

town, where we are glad to turn our eyes from the view. With the motor-car, on the other hand, we can be masters of our own fate; we can pause here, hurry there, go back even (though this requires a rare degree of moral courage) to visit some glimpse of happiness afforded by our flying progress; and therefore it is well to make our plans so that the convenience of our journey as a whole is not disorganized by this pretty indulgence of the moment.

One hundred miles a day is an average rate of travel that will combine plenty of progress, change, and variety with the ability to pause and hurry when we will. Putting all questions of law on one side, an average of twenty miles an hour is as much as can be accomplished with comfort; and even the maintenance of that average will involve travelling at thirty miles an hour over a good part of the road. This chiefly applies to travelling in England, where the conditions of the roads, and the frequency of villages, make anything like a steady and even rate of progress impossible. People who wish to keep accurately within the letter of the law must not expect to average more than fifteen miles an hour over their

the blood when the man of a civilized and indoor existence is led out again into the sun.

Truly the happiest day for the motorist, if he be young in years or heart, is that day upon which, for the first time, he takes command of his marvellous toy. The love of mechanical things, which has perhaps lain dormant within him since childhood, is reawakened; he is back in a world of fairyland; he experiences that delightful heady excitement of the child who is about to play with a new toy. I am afraid that, even as the pastime of motoring has outgrown its infancy, so perhaps this early pleasure in it is less extreme than it used to be; or perhaps it is I who am dull enough to think that no one can ever enjoy his first motor-car as I enjoyed mine. It is pleasant to go back on it and to reconstruct a pleasure that is no less delightful in that it can no more be repeated or renewed than the years and seasons themselves. New seasons, new years; let us hope also, new pleasures; but of the old, only fragrant and ghostly memories.

My first car came to me in the days when every one began with a steam car. It fell to me, so to speak, from the clouds, a gift from heaven; there

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was one day upon which I had no more idea of possessing a motor-car than of owning the moon, and a day following when I knew that I was to possess one. I am glad to think that I committed every headlong mistake of incompetence and impatience that can possibly be committed in such greed of enjoyment as then came upon me. I was living in the country. There was a hasty journey to London, with panting impatience at the railway station because I had to wait ten minutes for the train; there was the moment's pause during which I lingered, a hovering epicurean, before the plate-glass window of the show-room; a moment in which I deliberately delayed the supreme pleasure. These were the days in which locomobiles were bought like eggs; the vast show-room was full of them. I would as soon have gone to prison as gone out of that place without having chosen my car; whether there was one there suitable for me or not, I knew very well that one would be bought. Cars yellow, green, and red, of every price, shape, and size, lying in polished repose in the show-room, or gliding noiselessly about in and out of the driving-school-there they were in intoxicating

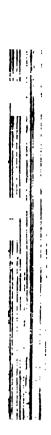
variety. Presently I saw the car for me; and like one who would buy a slave in a market, knew instantly that I must possess it, although I feebly went through the formalities of inquiry, hesitation, and chaffering about the price. It was a beautiful little red car. I am glad to think that amid the subsequent decay of the vogue of cars of its type in England, my red car continued its career steadily and creditably; ultimately became famous for its mileage, speed, smartness, and freedom from breakdowns, and is at this moment, to the best of my belief, skimming the quiet country roads of some rural retreat in England.

But little did I know or care whether I was making a wise purchase. That was the car for me, and I had hardly patience to listen to the perfunctory enumerations of its merits before my cheque-book was out of my pocket and the astonished salesman was realizing the simplicity of his task. Nothing would serve me but steam must be got up at once; the necessary accessories were acquired, and in twenty minutes I was being driven out on my new possession. I crammed the whole period of instruction and experience into something like two days, and at the end of the

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third day drove my car and myself into the country, put it into its stable, and realized that I was its sole possessor and controller.

The summer that followed lies on my memory, so far as the motor-car is concerned, like a rosy cloud. There were a great many toils, aches, and pains; there was a serious smash-up two days after I began to run the car, in which I got all my experience at one gulp; but these unpleasant things corrode and perish in the casket of memory, which preserves only happy things, embalming them as among spices and rose leaves. There was the delightful walk down to my motor stable through the fragrant summer mornings; the pleasing incident of wheeling it out into the light; the infinite pleasure of making deliberate preparations for enjoyment. There was the superfluous water which had syphoned into the boiler to be drawn off; there was the petrol tank to be filled with that clean, limpid, volatile liquid, the very aroma of which becomes pleasant in the enthusiast's nostrils; the car had been washed and polished by my faithful stable-helper—also an enthusiast; and I had him for audience while I went about on my tasks. There was the heating of the torch



XVIII ACCIDENTS AND INCIDENTS



ACCIDENTS AND INCIDENTS

O motor tour is complete without its incidents; and although cynics insist upon calling them accidents we will not do so unless we lose our lives in them. As a matter of fact, accidents in a motor-car have a dignity and importance of their own, and should not be confounded with the series of small mechanical happenings which take place in the course of any extended tour and do no one any harm, but add, on the contrary, interest and variety to a journey. Fortunately accidents caused by motorcars are extremely rare in proportion to the immense mileage covered by these vehicles in the course of a year; when they do occur they are naturally more serious than accidents caused by horse-drawn vehicles. The accidents to which motor-cars are chiefly liable are caused by sideslip, failure of brakes, damage to steering gear,

and the breaking of a wheel. Accidents caused by side-slip are almost always avoidable, and need hardly ever be fatal if the driver has nerve. strength, and presence of mind; accidents caused by failure of brakes are more serious, but are also avoidable by proper care and examination of this important part of the machinery; accidents arising from either of the other two causes may very likely be fatal and are not easily avoidable, because they are as a rule due to obscure flaws in the metal which cannot be detected beforehand. But they are fortunately so rare that the possibility of them need not discourage the mind of any philosophic motorist. Side-slip is only dangerous when the car is travelling fast, and no sane driver travels too fast over very wet or slippery roads. Sometimes, however, even a careful driver is taken unawares by a sudden change in the surface of the road, such as occurs when one passes from sandstone on to limestone. same conditions of weather a sandy road will be perfectly dry, while a surface of limestone will be in an extremely greasy and dangerous state. Also in limestone districts one may be travelling over a hard, dry road in the open, and find on

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running on to a piece of road shaded by trees from sun and wind that the surface is treacherous and slippery; and if this change occurs at a bend of the road and the car is travelling fast there is very likely to be a bad side-slip. The use of Parson's chains or some form of non-skidding band on the tyres will rob side-slip of many of its terrors, but it will not entirely eliminate the possibility of a kind of accident which can only be prevented by constant watchfulness and caution. If a side-slip does occur, the only thing to be done is to throw out the clutch immediately and hold the car straight with the steering wheel—a thing which requires considerable strength and quickness if the car is travelling fast.

If the brakes should give out while the car is descending a long hill there is of course very little to be done but retain one's nerve and steer straight. It should be remembered, however, that the engine itself can be used as a brake if the spark is switched off and the clutch let in—or, in the case of a car with magneto-ignition, with the throttle closed and the petrol supply turned off. Of course this form of braking is gentle and gradual in its action, and would not stop a car in

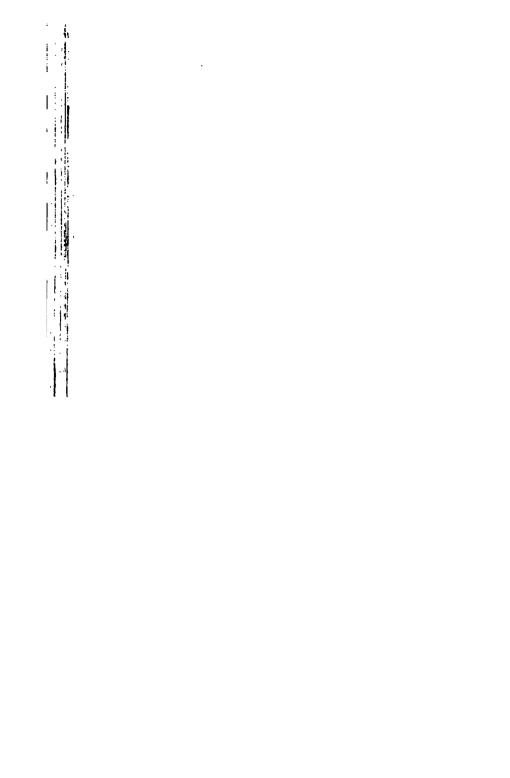
an emergency such as I have described, but it is not used nearly enough in the ordinary course of driving. It throws much less strain on the car than either the side-brake or the foot-brake; its regular employment saves them from becoming worn out, and is therefore itself a safeguard against accident. In a real emergency, if a car is running away downhill and a smash is inevitable, the driver will have to decide whether or not it is well to steer into a hedge or gate or grass bank, since if a car is beyond control and is acquiring an increased momentum with every yard, the sooner the crash comes the better. these are grim considerations, and fortunately are outside the experience likely to be acquired by most motorists.

Incidents, on the other hand, are many and various, and furnish daily interest on almost every motor tour. The philosophic will regard them as a pleasant opportunity for alighting and smoking cigarettes, and will not therefore chafe under the burden of delay. If one has a competent chauffeur, an occasional three-minutes stop for the adjustment of a sparking-point or the clearing of a lubricator is altogether pleasant,

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and gives one an opportunity for stretching one's legs and picking blackberries. It is the chauffeur who will have to get his hands oily. As I have indicated in another place, such incidents as hot bearings, failure of the petrol supply, over-heated engines, or short circuits, do not happen on a well-regulated car and with a well-disciplined chauffeur. The only incidents which are at all common and which are really unavoidable are punctures. These, in the present condition of the rubber industry, must be regarded as an act of God; from which consideration let the pious motorist take what comfort he can.

ablest and stupidest. Go-carriage of wood and steel; wooden-visaged, be-goggled Chauffeur, or Propeller of said Go-carriage; swathed, roundbellied, vacant-minded Owner; such Owner, paying wages of gold to him of the wooden visage and goggles, does in this year of Grace and in this wondrous England of ours career comet-like over road and track, past down and tillage, to the confusion and misery of all honest Men, and with such satisfaction, never before realized or desired by any son of Adam, as may penetrate his swathings, and (finding emptiness, drawn blinds, and general Vacuum in his mind) lodge in the round Belly aforesaid. To these a hitherto unknown individual, discharging copious rivers of ink, ministers with various Inanities, to wit: Lunch-basket, or no lunch-basket? whether to start at nine or at ten? whether, that the round Belly may ride and repose more softly, such make of tyre, or rolling wheel-cushion of the Insane, should be preferred over such other make, both being shams and inventions of the Devil; and, having exhausted even the fountain of Ink, concludes by asking, Where to go? Where to go? What is to me, O Hitherto Unknown Individual,



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old voice in these quiet country places! worth knowing, worth, to the class that can afford to explore it in this way, studying with knowledge and understanding, with patience, kindness, and sympathy. Not by flights over the good old roads, but by journeys on those same roads from village to village, from estate to estate, from county to county, noting the differences of condition, of outlook, of prosperity, and sometimes stopping at a cottage door to find what Life itself looks like from those deep-folded valleys. This would be progress, this would be knowledge; and thus might the motor-car, toy and luxury as it seems at present, take its place beside the sword and the ploughshare as a thing of use and truthful industry. For by motor-car or on foot, goggles or no goggles, it is through the kingdoms of knowledge and of the mind that we must really travel if our travellings are to have meaning and our journeys an end.

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